

TRAFFIC MANUAL

CHAPTER 4 - SIGNS

**4-0 - Table of Contents, List of Tables,
List of Figures and List of Signs**

4-1 - General Standards

4-2 - Warning Signs

4-3 - Regulatory Signs

4-4 - Guide Signs

4-5 - Ramp Terminal Signing



**January
1996**

This Page Left Blank Intentionally

CHAPTER 4

TABLE OF CONTENTS

| <i>Index No.</i> | | <i>Page No.</i> | <i>Date</i> |
|------------------|---|-----------------|----------------|
| 4-01 | INTRODUCTION AND GENERAL STANDARDS..... | 4-1 | January, 1996 |
| 4-01.1 | Functions of Signs..... | 4-1 | January, 1996 |
| 4-01.2 | Scope of Sign Standards..... | 4-1 | November, 1982 |
| 4-01.3 | Legal Authority..... | 4-1 | January, 1996 |
| 4-01.4 | Standardization of Application..... | 4-1 | November, 1982 |
| 4-01.5 | Variable Sign Messages..... | 4-2 | November, 1982 |
| 4-01.6 | Excessive Use of Signs..... | 4-2 | November, 1982 |
| 4-01.7 | Classification of Signs..... | 4-2 | January, 1996 |
| 4-01.8 | Standardization of Signs..... | 4-2 | November, 1982 |
| 4-01.9 | Design..... | 4-3 | November, 1982 |
| 4-01.10 | Shapes..... | 4-3 | January, 1996 |
| 4-01.11 | Colors..... | 4-3 | November, 1982 |
| 4-01.12 | Size..... | 4-4 | January, 1996 |
| 4-01.13 | Symbols and Educational Plates..... | 4-4 | January, 1996 |
| 4-10.14 | Word Messages..... | 4-4 | January, 1996 |
| 4-01.15 | Lettering..... | 4-4 | January, 1996 |
| 4-01.16 | Illumination and Reflectorization..... | 4-5 | November, 1982 |
| 4-01.17 | Means of Illumination..... | 4-5 | November, 1982 |
| 4-01.18 | Means of Reflectorization..... | 4-5 | November, 1982 |
| 4-01.19 | Sign Borders..... | 4-5 | January, 1996 |
| 4-01.20 | Supplemental Flashing Beacons..... | 4-5 | November, 1982 |
| 4-01.21 | Standardization of Location..... | 4-5 | January, 1996 |
| 4-01.22 | Overhead Sign Installations..... | 4-6 | January, 1996 |
| 4-01.23 | Height..... | 4-6 | January, 1996 |
| 4-01.24 | Lateral Clearance..... | 4-7 | January, 1996 |
| 4-01.25 | Position of Signs..... | 4-7 | November, 1982 |
| 4-01.26 | Erection..... | 4-7 | January, 1996 |
| 4-01.27 | Posts and Mountings..... | 4-7 | January, 1996 |
| 4-01.28 | Bridges for Sign Supports..... | 4-8 | November, 1982 |
| 4-01.29 | Sign Materials..... | 4-8 | November, 1982 |
| 4-01.30 | Maintenance..... | 4-8 | November, 1982 |
| 4-01.31 | Wrong Way Traffic Control..... | 4-8 | January, 1996 |
| 4-01.32 | Signs Off the State Right of Way..... | 4-9 | November, 1982 |
| 4-01.33 | Relinquished State Highways..... | 4-9 | November, 1982 |
| 4-01.34 | Procedure for State Highways..... | 4-9 | January, 1996 |
| 4-02 | WARNING SIGNS..... | 4-11 | January, 1996 |
| 4-02.1 | Application of Warning Signs..... | 4-11 | January, 1996 |
| 4-02.2 | Design of Warning Signs..... | 4-11 | January, 1996 |
| 4-02.3 | Placement of Warning Signs..... | 4-12 | January, 1996 |
| 4-02.4 | Advisory Speed on Curve Warning Sign..... | 4-12 | January, 1996 |

TABLE OF CONTENTS - Continued

| <i>Index No.</i> | | <i>Page No.</i> | <i>Date</i> |
|------------------|--|-----------------|----------------|
| 4-02.5 | Legal Authority..... | 4-12 | November, 1982 |
| 4-02.6 | Policy for Individual Warning Signs..... | 4-16 | January, 1996 |
| 4-03 | REGULATORY SIGNS..... | 4-39 | January, 1996 |
| 4-03.1 | Application of Regulatory Signs..... | 4-39 | January, 1996 |
| 4-03.2 | Classification of Regulatory Signs..... | 4-39 | November, 1982 |
| 4-03.3 | Design of Regulatory Signs..... | 4-39 | November, 1982 |
| 4-03.4 | Parking and Stopping Restriction Sign Series..... | 4-39 | January, 1996 |
| 4-03.5 | Other Regulatory Signs..... | 4-40 | November, 1982 |
| 4-03.6 | Policy for Individual Regulatory Signs..... | 4-41 | January, 1996 |
| 4-04 | GUIDE SIGNS..... | 4-77 | January, 1996 |
| 4-04.1 | Application of Guide Signs..... | 4-77 | January, 1996 |
| 4-04.2 | Design of Guide Signs..... | 4-77 | January, 1996 |
| 4-04.3 | Placement of Signs..... | 4-77 | January, 1996 |
| 4-04.4 | Placement of Street Name Signs..... | 4-77 | January, 1996 |
| 4-04.5 | Establishing Business Routes..... | 4-78 | January, 1996 |
| 4-04.6 | Bypassed Communities..... | 4-79 | November, 1982 |
| 4-04.7 | Signing to Freeways..... | 4-79 | January, 1996 |
| 4-04.8 | Placement of Route Shields..... | 4-80 | January, 1996 |
| 4-04.9 | Freeway Name Signing..... | 4-80 | January, 1996 |
| 4-04.10 | Memorial Named Highway Facilities..... | 4-80 | January, 1996 |
| 4-04.11 | Control City Signing..... | 4-81 | November, 1982 |
| 4-04.12 | Application of Directional Signing..... | 4-82 | January, 1996 |
| 4-04.13 | Destination Signing..... | 4-83 | January, 1996 |
| 4-04.14 | Information Signs..... | 4-86 | January, 1996 |
| 4-04.15 | Application of General Service Signing..... | 4-87 | January, 1996 |
| 4-04.16 | Specific Service Signing (LOGO)..... | 4-93 | January, 1996 |
| 4-04.17 | Recreational and Historic Signs..... | 4-93 | January, 1996 |
| 4-04.18 | Application of Overhead Signs..... | 4-94 | January, 1996 |
| 4-04.19 | Placement of Overhead Signs..... | 4-95 | January, 1996 |
| 4-04.20 | Types of Overhead Sign Structures..... | 4-96 | January, 1996 |
| 4-04.21 | Use of Overhead Signs..... | 4-96 | January, 1996 |
| 4-04.22 | Illumination and Reflectorization of Overhead Signs..... | 4-99 | January, 1996 |
| 4-04.23 | Structural Details of Overhead Signs..... | 4-100 | January, 1996 |
| 4-04.24 | Policy for Individual Guide Signs..... | 4-103 | January, 1996 |
| 4-05 | RAMP TERMINAL SIGNING..... | 4-155 | January, 1996 |
| 4-05.1 | General..... | 4-155 | January, 1996 |
| 4-05.2 | On-Ramp Terminal Signing..... | 4-155 | January, 1996 |
| 4-05.3 | Off-Ramp Terminal Signing..... | 4-156 | January, 1996 |

TABLE OF CONTENTS - Continued

Refer to the publication, "**High Occupancy Vehicle (HOV) Guidelines for Planning, Design and Operations**", published by the Traffic Operations Program for the current policies and procedures regarding HOV lane signing and marking.

Refer to the publication, "**Ramp Meter Design Guidelines**", published by the Traffic Operations Program for the current policies and procedures regarding metered ramp geometric design, signing, pavement markings, signals and lighting.

CHAPTER 4 LIST OF FIGURES

| <i>Figure No.</i> | | <i>Page No.</i> | <i>Date</i> |
|-------------------|--|-----------------|---------------|
| 4-1 | Typical Height and Lateral Position for Signs..... | 4-13 | January, 1996 |
| 4-2 | Determination of Comfortable Speed from Ball Bank Indicator Readings..... | 4-14 | January, 1996 |
| 4-3 | Comfortable speed on Horizontal Curves..... | 4-15 | January, 1996 |
| 4-4 | U - Turn signs for Signalized Intersections with Separate Turn Phase..... | 4-75 | January, 1996 |
| 4-6 | Trail Blazing to Freeways..... | 4-146 | January, 1996 |
| 4-7 | Typical Directional Signing..... | 4-147 | January, 1996 |
| 4-8 | Sign Route Markers..... | 4-148 | March, 1988 |
| 4-9 | Typical Overhead Signs..... | 4-149 | January, 1996 |
| 4-10 | Typical Freeway Signing..... | 4-150 | January, 1996 |
| 4-11 | Typical Freeway Signing..... | 4-151 | January, 1996 |
| 4-12 | Typical Freeway Signing..... | 4-152 | January, 1996 |
| 4-13 | Typical Freeway Signing..... | 4-153 | January, 1996 |
| 4-14 | Typical Freeway Signing..... | 4-154 | January, 1996 |
| 4-15 | Ramp Terminal Signing, Off-Ramp..... | 4-157 | March, 1988 |
| 4-16 | Ramp Terminal Signing, Off-Ramp..... | 4-157 | March, 1988 |
| 4-17 | Ramp Terminal Signing, On-Ramp..... | 4-158 | March, 1988 |
| 4-18 | Ramp Terminal Signing, On & Off-Ramp..... | 4-158 | January, 1996 |
| 4-19 | Ramp Terminal Signing, On & Off-Ramp..... | 4-159 | January, 1996 |
| 4-20 | Ramp Terminal Signing, On & Off-Ramp..... | 4-159 | January, 1996 |
| 4-21 | Ramp Terminal Signing, Off-Ramp..... | 4-160 | March, 1988 |
| 4-22 | Ramp Terminal Signing, On-Ramp..... | 4-160 | March, 1988 |
| 4-23 | Ramp Terminal Signing, On & Off-Ramp..... | 4-161 | January, 1996 |
| 4-24 | Ramp Terminal Signing, Off-Ramp..... | 4-161 | March, 1988 |

CHAPTER 4

LIST OF TABLES

| <i>Figure No.</i> | | <i>Page No.</i> | <i>Date</i> |
|-------------------|--|-----------------|---------------|
| 4-1 | Criteria for Supplemental Destination Signs..... | 4-84 | January, 1996 |
| 4-2 | Vertical Dimensions for Overhead Directional Signs..... | 4-102 | January, 1996 |
| 4-3 | Die-Cut and Silk Screen Letter Specifications..... | 4-136 | January, 1996 |
| 4-4 | Die-Cut and Silk Screen Letter Specifications..... | 4-137 | January, 1996 |
| 4-5A | Reflective Die-Cut Letter and Digit Specifications..... | 4-138 | January, 1996 |
| 4-5B | Reflective Die-Cut Letter and Digit Specifications..... | 4-139 | January, 1996 |
| 4-6 | Reflective Button Letter and Digit (Demountable Copy) Spec.'s..... | 4-140 | January, 1996 |
| 4-7 | Reflective Button Letter and Digit (Demountable Copy) Spec.'s..... | 4-141 | January, 1996 |
| 4-8 | Die-Cut and Silk Screen Letter Specifications (Arrows)..... | 4-142 | January, 1996 |
| 4-9 | Standard Arrow Specifications for Directional Signs..... | 4-143 | January, 1996 |
| 4-10 | Standard Arrow Specifications for Directional Signs..... | 4-144 | January, 1996 |
| 4-11 | Standard Route Shields for Guide Signs..... | 4-145 | January, 1996 |

LIST OF SIGNS

This listing is only of the signs that appear in this chapter of the Traffic Manual. A complete listing of all of the currently approved signs is available through the Caltrans Publication Unit, 1900 Royal Oaks Drive, Sacramento, CA 95815, and is titled "Traffic Sign Specifications".

WARNING SIGNS

| <i>Code</i> | <i>Title</i> | <i>Page</i> | <i>Code</i> | <i>Title</i> | <i>Page</i> |
|-------------|--|-------------|-------------|--|-------------|
| W1 (Rt.) | Reverse Curve | 4-16 | W32 | Dip | 4-24 |
| W2 (Rt.) | Reverse Turn | 4-16 | W33 | Rough Road | 4-25 |
| W3 (Rt.) | Turn | 4-16 | W34 | Low Clearance | 4-25 |
| W4 | Special Curve/Turn Arrow and Advisory Speed | 4-17 | W34A | ___ Miles Ahead Plate | 4-25 |
| W5 | Curve | 4-17 | W34B | Vertical Clearance ___ Ft ___ In | 4-25 |
| W6 | Advisory Speed Plate | 4-17 | W36 | One Lane Bridge | 4-25 |
| W7 | Side Road | 4-18 | W37 | Bump | 4-26 |
| W8 | Y Intersection | 4-18 | W38 | Slide Area | 4-26 |
| W9 | Cross Road | 4-18 | W41 | Signal Ahead Symbol | 4-26 |
| W10 | Railroad Advance Warning | | W41A | Signal Ahead | 4-26 |
| | Crossroad | 4-19 | W42 | Slippery When Wet Symbol | 4-27 |
| W10A | Railroad Advance Warning | | W43 | Icy | 4-27 |
| | Sideroad | 4-19 | W44 | Two-Way Traffic | 4-27 |
| W10B | Railroad Advance Warning | | W45 | Equestrian Symbol | 4-27 |
| | "T" Intersection | 4-19 | W46 | Exempt Plate | 4-28 |
| W11 | Pavement Width Transition | 4-20 | W46A | Exempt | 4-28 |
| W14 | Winding Road | 4-20 | W47 | Railroad Advance Warning | 4-28 |
| W15 | Road Narrows | 4-20 | W48 | Railroad Crossing | 4-28 |
| W16 | Grooved Pavement | 4-20 | W49 | Draw Bridge | 4-29 |
| W17 | Stop Ahead Symbol | 4-21 | W50-1 | Rock Slide Area Symbol | 4-29 |
| W18 | Soft Shoulder | 4-21 | W51 | Slow Trucks | 4-29 |
| W19 | Pavement Ends | 4-21 | W53 | Not A Through Street (Road) | 4-30 |
| W23 | Narrow Bridge | 4-22 | W53A | No Outlet | 4-30 |
| W25 | Divided Highway (Road) | | W54 | Pedestrian Crossing Symbol | 4-30 |
| | Symbol | 4-22 | W54A | Pedestrian Symbol | 4-30 |
| W26 | Divided Highway (Road) Ends | | W55 | Flooded | 4-31 |
| | Symbol | 4-22 | W55B | Subject To Flooding | 4-31 |
| W28 | Yield Ahead symbol | 4-22 | W56 | Double Headed Arrow | 4-31 |
| W29 | Hill Symbol | 4-23 | W57 | Single Head Arrow | 4-31 |
| W29A | ___ % Grade Plate | 4-23 | W58 | Double Arrow | 4-32 |
| W29B | ___ % Grade ___ Miles Plate | 4-23 | W59 | Merge Symbol | 4-32 |
| W29C | Trucks Use Lower Gear | 4-23 | W60 | Added Lane | 4-32 |
| W30 | Runaway Truck Mile | 4-23 | W61A | Exit (Lane Drop) | 4-33 |
| W30A | Runaway Truck Ramp | 4-24 | W61B | Only (Lane Drop) | 4-33 |
| W31 | End | 4-24 | W61C | Exit Only (Lane Drop) | 4-33 |
| W31A | Road Ends ___ Ft | 4-24 | W61D | Exit (Arrow) Only (Lane Drop) | 4-33 |
| | | | W61E | (Arrow) Exit Only (Arrow) (Lane Drop) | 4-33 |

WARNING SIGNS, Cont.

| <i>Code</i> | <i>Title</i> | <i>Page No.</i> | <i>Code</i> | <i>Title</i> | <i>Page No.</i> |
|-------------|-------------------------|-----------------|-------------|---------------------------------|-----------------|
| W62 | Farm Equipment Symbol | 4-33 | W71 | Next ____ Miles Plate | 4-36 |
| W63 | Advance School Symbol | 4-34 | W72 | Advisory Exit Speed | 4-36 |
| W64 | School Bus Stop ____ Ft | 4-34 | W72A | Advisory Ramp Speed | 4-36 |
| W65 | School Plate | 4-34 | W73 | Right (Lt) Lane Must Exit Ahead | 4-37 |
| W66 | School Crossing Symbol | 4-34 | W74 | Thru Traffic Merge Left (Right) | 4-37 |
| W66A | School Crossing Plate | 4-34 | W75 | Lane Ends Merge Left (Right) | 4-37 |
| W67 | Cattle Symbol | 4-35 | W79 | Bicycle Symbol | 4-38 |
| W68 | Deer Symbol | 4-35 | W80 | Xing Plate | 4-38 |
| W69 | End Freeway ____ Mile | 4-35 | W81 | Chevron Alignment | 4-38 |
| W70 | Cross Traffic Ahead | 4-35 | W83 | Pass With Care | 4-38 |
| | | | W84 | Turnout 1/4 Miles | 4-38 |

LIST OF SIGNS

This listing is only of the signs that appear in this chapter of the Traffic Manual. A complete listing of all of the currently approved signs is available through the Caltrans Publication Unit, 1900 Royal Oaks Drive, Sacramento, CA 95815, and is titled "Traffic Sign Specifications".

REGULATORY SIGNS

| <i>Code</i> | <i>Title</i> | <i>Page No.</i> | <i>Code</i> | <i>Title</i> | <i>Page No.</i> |
|-------------|---------------------------------|-----------------|-------------|----------------------------------|-----------------|
| R1 | Stop | 4-41 | R26A | No Parking Any Time | 4-52 |
| R1-3 | 4-Way | 4-41 | R28A | No Parking Any Time (Arrow) | 4-52 |
| R1-4 | All Way | 4-41 | R26D | No Parking Symbol | 4-52 |
| R1-2 | Yield | 4-43 | R26E | (No Parking Supplemental Plt.s) | 4-52 |
| R2 | Speed Limit ____ | 4-45 | R26F | No Stopping Fire Lane | 4-53 |
| R2-4 | ____ Zone Ahead | 4-45 | R26(S) | No Stopping Any Time | 4-53 |
| R3 | End ____ Speed Limit | 4-45 | R26A(S) | No Stopping Any Time | 4-53 |
| R4 | Truck | 4-46 | R28(S) | No Stopping Any Time (Arrow) | 4-53 |
| R6-1 | Autos With trailers, Trucks | | R28A(S) | No Stopping Any Time (Arrow) | 4-54 |
| | 55 Maximum | 4-46 | R28B | No Parking Vehicles Over | |
| R7 | Keep Right Symbol | 4-46 | | 6 Ft High (Arrow) | 4-54 |
| R10 | One Way (Right or Left) | 4-47 | R29 | No Stopping (w/ Specific Hrs.) & | |
| R10A | Rectangular One Way | | | No Parking (w/ Specific Hrs.) | 4-54 |
| | (Right or Left) | 4-47 | R30 | No Parking (w/ Specific Hrs.) | 4-54 |
| R11 | Do Not Enter | 4-48 | R30A | No Parking (w/ Specific Hrs.) | |
| R11A | Wrong Way | 4-48 | | (Arrow) | 4-55 |
| R13 | No Turn On Red | 4-48 | R31 | No Parking (w/ Specific Hrs. | |
| R13A | No Right Turn On Red Symbol | | | and) Parking (w/ Specific Hrs.) | 4-55 |
| | Sign | 4-48 | R31(S) | No Stopping (w/ Specific Hrs. | |
| R15 | No Turns | 4-49 | | and) Parking (w/ Specific Hrs.) | 4-55 |
| R16 | No Right Turn Symbol | 4-49 | R32 | ____ Hour Parking | |
| R17 | No Left Turn Symbol | 4-49 | | (w/ Specific Hrs.) | 4-55 |
| R16B | No Right Turn | 4-50 | R32A | ____ Minute Parking | |
| R17B | No Left Turn | 4-50 | | (w/ Specific Hrs.) | 4-55 |
| R18 | Right Turn Must turn Right | 4-50 | R32B | No Parking (w/ Specific Hrs. &) | |
| R18A | Right/Left Lane Must Exit | 4-50 | | ____ Hour Parking | |
| R19 | No Left Or U Turn | 4-50 | | (w/ Specific Hrs.) | 4-56 |
| R20 | Weight Limit Symbol | 4-51 | R34 | No U Turn Symbol | 4-56 |
| R20B | No Truck Symbol | 4-51 | R34-2 | No Left or U Turn Symbol | 4-56 |
| R20D | Over ____ Tons, Over ____ Wide, | | R34A | No U Turn | 4-56 |
| | Over ____ Axles, | | R35 | Truck Route | 4-56 |
| | Over ____ Ft Long | 4-51 | R36 | Commercial Vehicles Over | |
| R21 | Bridge Speed and Weight Limit | 4-51 | | ____ Tons Prohibited | 4-57 |
| R24 | Park Parallel | 4-51 | R37 | Tow-Away, No Stopping | |
| R25 | Park Off Pavement | 4-52 | | No Parking (w/ Specific Hrs.) | 4-57 |
| R26 | No Parking Any Time | 4-52 | R38 | Tow-Away, No Parking, ____ | |
| R28 | No Parking Any Time (Arrow) | 4-52 | | Hour Parking (w/ Specific Hrs.) | 4-57 |

REGULATORY SIGNS, Cont.

| <i>Code</i> | <i>Title</i> | <i>Date</i> | <i>Code</i> | <i>Title</i> | <i>Date</i> |
|-------------|--|-------------|-------------|---|-------------|
| R38(S) | Tow-Away, No Stopping, ____ Hour Parking (w/ Specific Hrs.) | 4-57 | R76-1 | On Single Axle Drive Vehicle With Trailer | 4-67 |
| R40 | Two Way Traffic Ahead | 4-58 | R77 | No Exceptions | 4-67 |
| R41 | Right Turn Only | 4-58 | R78 | End Chain Control | 4-67 |
| R42 | Left Turn Only | 4-58 | R79 | Autos & Pickups Snow Tires OK --- Carry Chains | 4-68 |
| R43 | Pedestrians Prohibited | 4-58 | R80-1 | 4-W Drive With Snow Tires OK --- Carry Chains | 4-68 |
| R44 | Pedestrians, Bicycles, Motor-Driven Cycles Prohibited | 4-59 | R81 | Bike Lane | 4-68 |
| R44A | Bike Path (etc.) | 4-59 | R81A | Begin | 4-68 |
| R44B | Bicycles, Motor-Driven Cycles Must Exit (Arrow) | 4-59 | R81B | End | 4-68 |
| R44C | Bicycles Must Exit (Arrow) | 4-60 | R95 | No Bicycles Symbol | 4-71 |
| R45 | Emergency Parking Only | 4-60 | R96 | No Pedestrian Symbol | 4-71 |
| R48 | Speed Checked By Radar | 4-60 | R96A | No Ped Xing Plate | 4-71 |
| R49 | No Ped Crossing Use Crosswalk | 4-60 | R96B | Use Crosswalk | 4-71 |
| R51 | Turnout | 4-61 | R96C | Pedestrians Prohibited | 4-71 |
| R52 | Slower Traffic Use Turnouts | 4-61 | R98 | Divided Highway | 4-72 |
| R53 | Truck Lane ____ Feet | 4-61 | R98A | Divided Highway | 4-72 |
| R53A | End Truck Lane | 4-62 | R99 | Physically Challenged Parking Only Symbol | 4-72 |
| R53B | Trucks Right Lane Only | 4-62 | R100 | Special Placard Or License Plate Required | 4-72 |
| R53C | Trucks Use Right Lane | 4-62 | R100A | Tow-Away Special Placard Or License Plate Required | 4-72 |
| R55 | Yield To Uphill Traffic | 4-62 | R100B | Physically Handicapped Tow-Away | 4-73 |
| R56 | Slower Traffic Keep Right | 4-63 | R101 | Private road Vehicle Code Enforced | 4-73 |
| R57 | Begin Freeway | 4-63 | R102 | Hazardous Waste Prohibited Symbol | 4-73 |
| R58 | End Freeway | 4-63 | R102A | Hazardous Waste Prohibited | 4-73 |
| R61 series | Lane-Use Control | 4-63 | R103 | Hazardous Waste Permitted Symbol | 4-73 |
| R62 series | Ped Signal Push Button Unit Instructions | 4-64 | R103A | Hazardous Waste Permitted | 4-74 |
| R63 | Do Not Pass | 4-64 | R104 | Hazardous Material Prohibited Symbol | 4-74 |
| R65 | Do Not Stop On Tracks | 4-65 | R104A | Hazardous Material Prohibited | 4-74 |
| R67 | Two-Way Left Turn Lane Symbol | 4-65 | R105 | Hazardous Material Permitted Symbol | 4-74 |
| R67A | 2-Way Turn Lane | 4-65 | R105A | Hazardous Material Permitted | 4-74 |
| R70 | Trucks OK (Arrow) | 4-65 | | | |
| R72 | When Children Are Present | 4-66 | | | |
| R73 series | Lane-Use Control | 4-66 | | | |
| R73-7 | Left Turn Yield On Green Ball | 4-66 | | | |
| R74 | Chain Installation Only | 4-66 | | | |
| R75 | Chains Required ____ Mile Ahead | 4-67 | | | |
| R76 | Chains Required | 4-67 | | | |

LIST OF SIGNS

This listing is only of the signs that appear in this chapter of the Traffic Manual. A complete listing of all of the currently approved signs is available through the Caltrans Publication Unit, 1900 Royal Oaks Drive, Sacramento, CA 95815, and is titled "Traffic Sign Specifications".

GUIDE SIGNS

| <i>Code</i> | <i>Title</i> | <i>Page No.</i> | <i>Code</i> | <i>Title</i> | <i>Page No.</i> |
|-------------|--|-----------------|-------------|--|-----------------|
| G1 | Destination (w / Mileage and Arrow) | 4-103 | G24 series | Lane Assignment | 4-110 |
| G5 | Destination (w / Mileage) | 4-103 | G25 | County Route marker | 4-111 |
| G7 | Street Name | 4-104 | G26 | U. S. Route Shield | 4-111 |
| G8 | Destination (w / Arrow) | 4-104 | G27 | Interstate route Shield | 4-111 |
| G8-22 | Street/Road Name (w/ Arrow) | 4-104 | G28 | California State Route Shield | 4-111 |
| G9-2 | Unincorporated Community | 4-105 | G30 | Scenic Route | 4-112 |
| G9-5 | City Limit | 4-105 | G30A | Scenic Route (State Hwys.) | 4-112 |
| G10 | County Line | 4-106 | G30B | Scenic Route (County Rds.) | 4-112 |
| G10B | Welcome To California | 4-106 | G30C | Begin (For Scenic Rtes.) | 4-112 |
| G11-3 | River Name | 4-107 | G30D | End (For Scenic Rtes.) | 4-112 |
| G11-1 | River Name (w/ Bridge No., Route No., County, and Post Mile) | 4-107 | G31 | Interstate Business Loop | 4-112 |
| G11-4 | River Name (w/ Bridge No., Route No., County, and Post Mile) | 4-107 | G33 | Arrow Plate | 4-112 |
| G11-6 | Structure Identification (w/ Route No., County, Post Mile, and Reflectors) | 4-107 | G33-1 | Arrow Plate | 4-112 |
| G13-1 | Advance Historical Landmark (w/ Distance and Arrow) | 4-108 | G34 | Arrow (Single Hd., Horiz.) | 4-113 |
| G13-2 | Advance Historical Landmark (w/ "Next Right") | 4-108 | G35 | Arrow (Dbl. Hd. Horiz.) | 4-113 |
| G14 | Advance Historical Landmark (w/ "___ Ft Ahead") | 4-108 | G36 | Arrow (Single Hd. Vert. Up) | 4-113 |
| G15 | Point Of Historical Interest (w/ Arrow) | 4-108 | G38 | Arrow (Dbl. Hd. Vert. Up & Horiz. Rt.) | 4-113 |
| G16 | Mountain Pass Elevation | 4-109 | G44 | Arrow (Single Hd. 45½ Up & Rt.) | 4-113 |
| G17 | Elevation | 4-109 | G45 | Arrow (Single Hd. Up & Lt. | 4-113 |
| G20 | Lane Designation (w/ Rte. Shield, Direction, and City Name) | 4-109 | G47 | Cardinal Direction | 4-113 |
| G21 | Left and Right Lane Designation | 4-109 | G48 | Cardinal Direction | 4-113 |
| G22 | Turnoff | 4-110 | G49 | Cardinal Direction | 4-113 |
| G23 series | Interchange Sequence | 4-110 | G50 | Cardinal Direction | 4-113 |
| | | | G51 | Temporary | 4-113 |
| | | | G55 | Business | 4-113 |
| | | | G56 | Jct | 4-114 |
| | | | G57 | End | 4-114 |
| | | | G58 | Next Right | 4-114 |
| | | | G59 | To | 4-114 |
| | | | G60 | Parking | 4-115 |
| | | | G66 series | General Service Symbols (Gas, Food, Lodging, Camping, Methanol, Diesel, Natural Gas, Handicapped, Hospital, Telephone, and Highway Patrol) | 4-115 |

GUIDE SIGNS, Cont.

| <i>Code</i> | <i>Title</i> | <i>Page No.</i> | <i>Code</i> | <i>Title</i> | <i>Page No.</i> |
|-------------|---|-----------------|-------------|--------------------------|-----------------|
| G66-55 | Large Truck Service | 4-116 | G97 | Rail Station Symbol | 4-124 |
| G66-56 | Large Truck Terminal | 4-116 | G97A-1 | Amtrak | 4-124 |
| G66-58 | Brake Check Area | 4-116 | G97A-2 | Caltrain | 4-124 |
| G66-59 | Brake Check Area | 4-116 | G200-3 | Automobile | 4-125 |
| G66-60 | Brake Check Area | 4-116 | G200-4 | Trucks | 4-125 |
| G68 | Divided Road ___ Miles Ahead | 4-116 | G200-6 | Lookout Tower | 4-125 |
| G69 | Passing Lane ___ Miles | 4-117 | G200-7 | Lighthouse | 4-125 |
| G70 | Passing Lane Ahead | 4-117 | G200-9 | Dam | 4-126 |
| G71 | National/State Park | 4-117 | G200-10 | Fish Hatchery | 4-126 |
| G72 | National/State Park | 4-117 | G200-11 | Deer View Area | 4-126 |
| G76 | Route ___ Business | 4-117 | G200-13 | Drinking Water | 4-126 |
| G77 | Two-Lane Cross Street Freeway | | G200-14 | Information | 4-126 |
| | Interchange | 4-118 | G200-15 | Ranger Station | 4-127 |
| G77A | Two-Lane Cross Street Freeway | | G200-18 | Lodging | 4-127 |
| | Interchange | 4-118 | G200-19 | Food Service | 4-127 |
| G78 | Freeway Interchange | 4-118 | G200-20 | Grocery Store | 4-127 |
| G79 | Rest Area ___ Mile | 4-118 | G200-25 | Telephone | 4-127 |
| G79A | Next Rest ___ Mile | 4-118 | G200-27 | Mechanic | 4-128 |
| G80 | Rest Area | 4-119 | G200-28 | Handicapped | 4-128 |
| G80A | Rest Area | 4-119 | G200-29 | Airport | 4-128 |
| G81 series | General Service (Phone, Water, Tourist Information, L. P. Gas, Traffic Info., Emergency Call 911) | 4-119 | G200-32 | Gas Station | 4-128 |
| G82 | Freeway (Arrow) | 4-120 | G200-33 | Vehicle Ferry | 4-128 |
| G83 | Primary Directional | 4-120 | G200-34 | Parking | 4-129 |
| G84 | Freeway Exit | 4-120 | G200-36 | Viewing Area | 4-129 |
| G85 series | Action directional | 4-120 | G200-38 | Campground | 4-129 |
| G86 series | Supplemental Next Right/Left | 4-121 | G200-40 | Trailer Sites | 4-129 |
| G87 | Destination Next ___ Exits | 4-121 | G200-41 | Trailer Sanitary Station | 4-129 |
| G90 | Next Services ___ Miles | 4-121 | G200-44 | Picnic Area | 4-130 |
| G92 | Freeway Entrance | 4-122 | G200-46 | Cross Country Skiing | 4-130 |
| G93 | Bike Route | 4-122 | G200-47 | Downhill Skiing | 4-130 |
| G93A | Begin (Bike Route) | 4-122 | G200-48 | Ski Jumping | 4-130 |
| G93B | End (Bike Route) | 4-122 | G200-49 | Sledding | 4-130 |
| G93C | Parking (Bike) | 4-122 | G200-50 | Ice Skating | 4-131 |
| G94 | Airport symbol | 4-122 | G200-51 | Ski Bobbing | 4-131 |
| G95 | Park & Ride | 4-123 | G200-52 | Snowmobiling | 4-131 |
| G95A | Park & Ride | 4-123 | G200-53 | Marina | 4-131 |
| G95B | Park & Ride Next Right | 4-123 | G200-54 | Boat Launching | 4-131 |
| G96 | Light Rail Symbol | 4-124 | G200-55 | Motorboating | 4-132 |
| G96A | Trolley | 4-124 | G200-56 | Sailboating | 4-132 |
| | | | G200-57 | Rowboating | 4-132 |
| | | | G200-58 | Water Skiing | 4-132 |
| | | | G200-59 | Surfing | 4-132 |

GUIDE SIGNS, Cont.

| <i>Code</i> | <i>Title</i> | <i>Page No.</i> | <i>Code</i> | <i>Title</i> | <i>Page No.</i> |
|--------------------|---------------------|------------------------|--------------------|------------------------|------------------------|
| G200-60 | Scuba Diving | 4-133 | G200-68 | Hiking Trail | 4-134 |
| G200-61 | Swimming | 4-133 | G200-69 | Playground | 4-134 |
| G200-62 | Diving | 4-133 | G200-70 | Amphitheater | 4-135 |
| G200-63 | Fishing | 4-133 | G200-71 | Tramway | 4-135 |
| G200-64 | Horse Trail | 4-133 | G200-77 | Winter Recreation Area | 4-135 |
| G200-65 | Trail Bike Trail | 4-134 | G200-78 | Snowshoeing | 4-135 |
| G200-66 | Bicycle Trail | 4-134 | G200-79 | Canoeing | 4-135 |
| G200-67 | Recreation Vehicle | 4-134 | | | |

This Page Left Blank Intentionally

CHAPTER 4 SIGNS

Introduction and General Standards 4-01

4-01.1 Function of Signs

Signs should be used where warranted by facts and field studies. Signs are essential where special regulations apply at specific places, specific times or where unusual conditions are not self-evident. They also give information as to highway routes, directions, destinations and points of interest. Ordinarily, signs are not needed to confirm rules of the road or general provisions of the vehicle code. Excessive use of signs should be avoided.

4-01.2 Scope of Sign Standards

This chapter prescribes standards for signing within the right-of-way for all classes of public highways. Standards for warning signs are detailed in Section 4-02, "Warning Signs." Regulatory signs may be found in Section 4-03, "Regulatory Signs," and Guide signs in Section 4-04, "Guide Signs." Construction signs are detailed in Chapter 5.

4-01.3 Legal Authority

California Vehicle Code (CVC) references are used throughout this chapter when the subject matter relates to law.

CVC 21400 provides that the California Department of Transportation (Caltrans) shall, after consultation with local authorities and public hearings, adopt rules and regulations prescribing uniform standards and specifications for all official traffic control devices placed pursuant to the provisions of the Code. CVC 21400 provides that only those official traffic control devices that conform to the uniform standards and specifications promulgated by Caltrans shall be placed upon a street or highway. CVC 21350 and 21351 give basic authority to the Department and local authorities, in their respective jurisdictions, to place and maintain such official traffic control devices.

Traffic signs shall only be placed by the authority of a public body, or official having

jurisdiction, for the purpose of regulating, warning, or guiding traffic. No traffic sign or its support shall bear any message that is not essential to traffic control.

Any unauthorized sign placed on the highway right-of-way by a private organization, or individual, constitutes a public nuisance and shall be removed, CVC 21467.

With proper authority being given, construction contractors and public utility companies are permitted to erect construction and maintenance signs at the work sites to protect the public, equipment, and workers, provided that such signs conform to the standards of this manual.

Effective traffic control depends not only on appropriate application of devices, but on reasonable enforcement of regulations as well. Standards in this manual are based on this concept.

4-01.4 Standardization of Application

By close observation of the standards given in this manual, any given device for the control of traffic will have the same meaning and require the same action on the part of motorists regardless of where it is encountered. A standard sign used where it is not appropriate is as objectionable as a nonstandard sign. Unique, nonstandard situations deserve unique treatment, where justifiable within the limitations contained in CVC 21400.

Each standard sign shall be displayed only for the specific purpose prescribed for it in this manual. New highways, detours and temporary routes shall be signed before opening to traffic.

Signs required by unusual conditions or restrictions shall be removed or covered immediately when those conditions cease to exist or the restriction are withdrawn.

Determination of the particular sign or signs to be applied to a specific condition shall ordinarily be made in accordance with the criteria set forth in the following pages. However, engineering judgement is essential to the proper use of signs, as with other traffic control devices. Traffic engineering studies may indicate that signs may be

unnecessary at certain locations. Data obtained from traffic engineering studies of physical and traffic related factors should be used in determining where signs are necessary.

It is recognized that urban traffic conditions differ from rural, and in many instances signs must be applied and located differently. Where pertinent and practical, this manual sets forth separate recommendations for rural and urban conditions.

After a sign has been erected, observations should be made to determine if the desired effect on traffic has been achieved.

4-01.5 Variable/Extinguishable Message Signs

Variable message signs are designed to have one or more messages that may be displayed or deleted as required. Such a sign may be changed manually, by remote control, or by automatic controls that can “sense” the conditions that require special sign messages.

Variable message signs, with more sophisticated technologies, are gaining more widespread use to inform motorists of variable situations, particularly along more congested traffic corridors. Also portable variable message signs are used in some areas to furnish information for nonrecurring incidents such as major traffic collisions.

It is recognized that due to technological limitations, many variable and extinguishable message signs cannot conform to the exact sign shape, color, and dimensions specified in these standards. Because technology is developing so rapidly in this area of signing, this manual has not specified detailed standards for variable message signs. Nevertheless, it is essential that variable and extinguishable message signs ascribe to the principles established in the manual, and to the extent practicable, with the design and applications prescribed herein.

4-01.6 Excessive Use of Signs

Care should be taken not to install too many signs. A conservative use of regulatory and warning signs is recommended as these signs, if used to excess, tend to lose their effectiveness. On the other hand, a frequent display of route numbers

and directional signs to keep the driver informed of his location and his course will not lessen their value.

4-01.7 Classification of Signs

Their are four general types of signs:

1. Warning signs, to caution motorists of road conditions.
2. Regulatory signs, to inform traffic of regulations governing movements, parking, speeds, weights, etc.
3. Guide signs to show route designations, destinations, directions, distances, services, points of interest, and other geographical, recreational, or cultural information.
4. Construction signs, to caution motorists in advance of and through construction and maintenance activities (may include warning, regulatory and guide signs).

Different types of signs should not be mounted on the same post. Standard signs are identified by code numbers for ease in preparing sign layouts and sign requisitions. Signs in the warning, regulatory and guide series are each numbered consecutively with the prefix W, R and G respectively. Other supplemental information may be used in parenthesis following the code number to identify the proper sign such as Rt or Lt for right or left, route numbers for shields, numerals for speed signs, etc.

4-01.8 Standardization of Signs

Signs other than those shown in this chapter or the “Traffic Sign Specifications” may be required under special conditions.

In situations where messages are required other than those herein provided for, the signs shall be of the same shape and color as standard signs of the same type.

The term “legend” as used in this manual includes all word messages and symbol designs that are intended to convey specific meanings. For

purposes of design, borders are included as part of the sign legend.

The basic requirements of a highway sign are that it be legible and understood in time to permit proper response. This means high visibility, letters or symbols of adequate size, and a short legend for quick comprehension by a motorist approaching at a rate of travel consistent with the design speed of the highway. Standardized colors and shapes are specified so that the several types of traffic signs can be promptly recognized. Simplicity and uniformity in design, position and application are important.

4-01.9 Design

Uniformity in design includes shape, color, dimensions, legends and illumination or retroreflectorization. This chapter shows standard signs approved for use on streets and highways. The design details of the various signs are shown in the "Approved Sign Specification Sheets" published by Caltrans. They are available to State and local highway and traffic authorities, sign manufacturers and similarly interested agencies. All symbols shall be unmistakably similar to those shown, and where a word message is applicable, the wording shall be as provided. Most standard symbols are oriented facing left; however, this does not preclude the use of mirror images of these symbols where the reverse orientation might better convey to vehicle operators a direction of movement. Standardization of these designs does not preclude further improvement by minor changes in the proportions of symbols, width of borders, or layout of word messages, but all shapes and colors shall be as indicated.

4-01.10 Shapes

Certain shapes have been identified as appropriate for use on signs to convey traffic control information. The standard sign shapes are as follows:

The **octagon** shall only be used for the STOP sign.

The **equilateral triangle**, with one point downward, shall be used only for the YIELD sign.

The **round** shape shall be used only for advanced warning of rail road crossings, civil defense evacuation route markers, and school STOP paddles.

The **diamond** shape shall be used only to warn of existing conditions, either on the roadway or adjacent thereto. The diamond shape is a square sign with one diagonal vertical.

The **rectangle** shall be used for all regulatory signs, except STOP signs and YIELD signs, all guide signs except certain route markers and recreational area guide signs, and for all educational and supplemental plates mounted below and on the same post with another warning sign. The rectangular shape may also be used for unusually large warning signs.

The **pentagon**, with one point upward, shall be used for school advance and school crossing signs.

Other shapes are reserved for special purposes; for example, the shield or other characteristic design for route markers.

4-01.11 Colors

The colors to be used on signs shall be as follows:

RED is used only as a background color for STOP signs, multiway supplemental plates, do-not-enter messages, wrong-way signs and on interstate route markers, or as a legend color for YIELD signs, parking prohibition signs, the circular outline and diagonal bar prohibitory symbol and symbol STOP AHEAD and YIELD AHEAD and SIGNAL AHEAD signs.

BLACK is used as a background on some ONE WAY signs and certain EXEMPT RXR signs, and as a legend color on white, yellow and orange signs.

WHITE is used as a background color for regulatory signs (except STOP signs), some route markers, some guide signs, the FALLOUT SHELTER directional sign, and for the legend on brown, green, blue, black and red background signs. Wherever white is specified herein as a sign color, it is understood to include silver-colored reflecting coatings or elements that reflect white light.

ORANGE is used as the background color for construction and maintenance work zone signs and shall not be used for any other purpose.

YELLOW is used as the background color on warning signs except in work zones where orange is specified.

BROWN is used as a background color for guide and informational signs related to points of recreational or cultural interest.

GREEN is used as a background color for guide signs (other than those using brown or white), and is a legend color with a white background for permissive parking regulation and signal ahead signs.

BLUE is used as a background color for information signs related to highway user services (including police services and rest areas), handicapped parking regulation, and the evacuation route marker.

4-01.12 Size

The dimensions prescribed in the "Traffic Sign Specifications", are the standard sizes for application on public streets and highways. The "Traffic Sign Specifications" publication is available from the Caltrans Publication Distribution Unit, 1900 Royal Oaks Drive, Sacramento, California 95815. Larger sizes may be used where greater legibility or emphasis is needed. Special signs or large signs are prescribed for freeways and expressways. Under special conditions such as alleys, limited parkway widths, parking facilities, parks, etc., the use of approved sizes smaller than standard size signs

may be justified based on engineering judgement. When sign sizes are changed, standard shapes and colors shall be used and standard proportions shall be retained insofar as practicable.

4-01.13 Symbols and Educational Plates

Symbol designs shall, in all cases, be essentially like those shown in this chapter and the sign specification sheets. A broader use of symbols in preference to word messages is desirable.

Sometimes a change from word messages to symbols requires a significant time for public education and transition. Consequently, this chapter includes educational plates to accompany some new symbol signs. All symbol signs which are readily recognizable by the public may be erected without educational plates. New warning or regulatory symbol signs not readily recognizable by the public shall be accompanied by an educational plate which is to remain in place for at least three years after initial installation. No special effort need be made to remove educational plates as long as they are in serviceable condition.

4-01.14 Word Messages

Where applicable, standard wordings as shown in this manual shall be used for sign legends. Word messages should be as brief as possible, and the lettering should be large enough to provide the necessary legibility for the speeds and distances involved.

Abbreviations should be kept to a minimum, and should normally include only those that are commonly recognized and understood, such as Ave., Blvd., N. (for north), R. R., or Jct.

4-01.15 Lettering

Sign lettering shall be in upper case letters of the type approved by Caltrans, except that destination names may be in lowercase lettering, with the initial letter in each word in the upper case lettering. Upper and lower case California Standard alphabets are available from Caltrans.

Use of the series B alphabet is restricted to street name signs, parking signs, and other similar

signs where limited breadth and stroke widths are required for design purposes.

As a guide to choice of alphabets, better legibility can be obtained by using relatively wide spacing between letters than by using wider and taller letters with cramped spacing.

4-01.16 Illumination and Retroreflectorization

Regulatory and warning signs, unless accepted in the standards covering a particular sign or group of signs, shall be reflectorized or illuminated to show the same shape and color both day and night. All overhead sign installations should be illuminated where an engineering study shows that retroreflectorization will not perform effectively. Retroreflectorization, nonretroreflectorization, or illumination of guide signs shall be as provided in Section 4-04, "Guide Signs".

4-01.17 Means of Illumination

Illumination may be by means of:

1. A light behind the sign face, illuminating the main message or symbol, or the sign background, or both, through a translucent material; or
2. An attached or independently mounted light source designed to direct uniform illumination over the entire face of the sign; or
3. Some other effective device, such as luminous tubing or fiber optics shaped to the letter or symbol, patterns of incandescent light bulbs, or luminescent panels that will make the sign clearly visible at night.

The requirements for sign illumination are not considered to be satisfied by street or highway lighting, or by strobe lighting.

4-01.18 Means of Retroreflectorization

Retroreflectorization may be by means of:

1. Reflectors (buttons) or similar units set into or on the symbol, message and border; or
2. Reflective sheeting, either on the sign background or, where a white legend is used on a black or colored background, in the symbol or message and border.

4-01.19 Sign Borders

With few exceptions, all signs illustrated herein shall have a border of the same color as the legend, at or just inside the edge. A dark border should be set in from the edge, while a white border should extend to the edge of the panel. A suitable border for 750 mm signs with a light background is from 12 mm to 19 mm in width, 12 mm from the edge. For similar signs with a white border, a width of 25 mm is appropriate. For other sizes the border widths should be of similar proportions, but not to exceed the stroke width of the major lettering of the sign. On signs exceeding 1.8 m by 3 m in size, the border should be approximately 50 mm wide, or on unusually large signs, 75 mm.

The corners of the sign border shall be rounded. Where practicable, the corners of the sign panels should also be rounded to fit the border.

4-10.20 Supplemental Flashing Beacons

Only warning, regulatory or construction signs may be supplemented by flashing beacons. See Chapter 9, TRAFFIC SIGNALS AND LIGHTING, for installation details.

4-01.21 Standardization of Location

Though standardization of position cannot always be attained in practice, the general rule is to locate signs on the right-hand side of the roadway, where the motorist expects to find them. Proper sign location is essential to obtain maximum visibility and observance. The sign location must be suitable to the design features and alignment of the roadway, which may occasionally require a departure from recommended standards. Ordinarily, signs at other locations should be considered supplementary to signs placed in standard locations.

Under certain circumstances signs may be placed on channelizing islands or (as on sharp curves to the right) on the left-hand shoulder, directly in front of approaching vehicles. Supplemental signs located on the left of the roadway may be helpful on a multilane road where traffic in the right-hand lanes may obstruct the view to the right. On freeways, where some degree of lane use control is desirable, or where space for a sign is not available at the roadside, overhead signs are often necessary.

Ordinarily, signs should be erected individually on separate posts or mountings except where one sign supplements another, or where route or individual signs must be grouped. Signs should be located in a manner that optimizes nighttime visibility and minimizes the effects of mud spatter. Locations should also conform to safety factors concerning fixed obstacles near the roadway (See the Highway Design Manual, Section 309, "Clearances"). Signs should not obscure one another nor should they be hidden from view by other roadside objects. The signs should be spaced to allow enough time for motorists decisions to be made safely. Spacing should be determined in units of time from the vehicle approach speed.

The installation of signs, including route shields, on signal standards should be avoided unless they directly affect traffic movements in the intersection.

4-01.22 Overhead Sign Installations

The operational requirements of our present highway system are such that overhead signs have value at many locations. The factors justifying the erection of overhead sign displays are not definable in specific numerical terms, but the following conditions deserve consideration:

1. Traffic volumes are such that roadside signs are not adequate.
2. Complex interchange design.
3. Three or more lanes in each direction.
4. Restricted sight distance.
5. Closely spaced interchanges.

6. Multilane exits.
7. Large percentage of trucks.
8. Street lighting background.
9. High speed traffic.
10. Consistency of sign message location through a series of intersections.
11. Insufficient space for ground mounted signs.
12. Junction of one freeway with another freeway.
13. Left exit ramps.
14. "Exit Only" lanes and lane drops.

The existence of one, or more, of the conditions listed does not automatically justify the use of overhead signs.

4-01.23 Height

Signs erected at the side of the road in rural areas should be mounted at a height of at least 1.5 m measured from the bottom of the sign to the near edge of the pavement. In business, commercial and residential areas where parking and/or pedestrian and bicycle movement is likely to occur or where there are other obstructions to view, the clearance to the bottom of the sign should be at least 2.1 m. The height to the bottom of a secondary sign mounted below another sign may be 0.3 m less than the appropriate height specified above.

The height requirements for ground installations on freeways and expressways vary somewhat from those on conventional streets and highways. Directional signs on freeways and expressways should be erected with a minimum height of 2.1 m (from the level of the near edge of the pavement to the bottom of the sign). If, however, a secondary sign is mounted below another sign, the major sign should be at least 2.4 m and the secondary sign at least 1.5 m above the level of the pavement edge. All route markers and warning and regulatory signs on expressways should be at least 1.8 m above the level of the pavement edge. However, where signs are placed 9 m from the edge of the nearest traffic lane for increased roadside safety, the height of the

bottom of such signs may be 1.5 m above the level of the pavement edge.

A route marking assembly consisting of a route marker with an auxiliary plate is treated as a single sign.

Exceptions to these mounting heights are the FREEWAY ENTRANCE and DO NOT ENTER packages which are mounted lower to avoid sight restrictions and be most responsive to headlights. The FREEWAY ENTRANCE and DO NOT ENTER packages should be mounted with the bottom of the lower sign 0.6 m above the edge of the pavement. ONE WAY arrows (R10) should be mounted 0.46 m above the edge of the pavement.

Overhead signs should provide a vertical clearance of not less than 5.5 m over the entire width of the pavement and shoulders, except where a lesser vertical clearance is used for the design of other structures. The vertical clearance to overhead sign structures or supports need not be greater than 0.3 m in excess of the minimum design clearance of other structures. In special cases it may be necessary to reduce the clearance still further because of substandard dimensions in tunnels and other major structures such as double-deck bridges.

4-01.24 Lateral Clearance

Signs should allow the maximum lateral clearance practical from the edge of the traveled way for the safety of motorists who may leave the roadway and strike the sign supports. Advantage should be taken of existing guardrail, overcrossing structures and other conditions to minimize the exposure of sign supports to traffic.

On freeways, expressways, and in interchange areas, and on rural highways where practicable, warning and regulatory signs should be placed a minimum of 3.6 m and a maximum of 9 m from the edge of traveled way. In urban areas, less clearance may be used where necessary. Although 0.6 m is recommended as the urban minimum, a clearance of 0.3 m from the face of curb is permissible where sidewalk width is limited or where existing utility poles are close to the curb.

When clear roadside recovery areas are provided, guide signs on overhead sign supports shall be placed as far from the edge of traveled way as is practical, up to a maximum of 9 m. When

possible, they should be located in protected areas or placed behind guardrails, crash cushions, barriers, etc.

Where a freeway or an expressway median is 3.6 m or less in width, consideration should be given to spanning both roadways without a center support. Butterfly-type signs or other overhead sign supports should not be erected in neutral areas (gores) or other exposed locations.

4-01.25 Position of Signs

A warning sign is normally placed in advance of the condition to which it calls attention. A regulatory sign is normally placed where its mandate or prohibition applies or begins. Guide signs are placed, where needed, to keep motorists informed of the route to their destination.

Where any part of the roadway is obstructed or closed, construction signs are required to alert traffic well in advance of these obstructions or normal traffic flow restrictions.

4-01.26 Erection

Normally, signs should be mounted approximately at right angles to the direction of, and facing, the traffic that they are intended to serve.

Where mirror reflection from the sign face is encountered in such a degree as to reduce legibility, the sign should be turned slightly away from the road. When signs are offset 9 m or more from the pavement edge, signs should normally be turned toward the road. At curved alignments, the angle of placement should be determined by the course of approaching traffic rather than by the roadway edge at the point where the sign is located. Sign faces normally are vertical, but on grades it may be desirable to tilt a sign forward or back from the vertical to improve the viewing angle.

4-01.27 Posts and Mountings

Sign posts, their foundations and sign mountings shall be constructed to hold signs in proper alignment and permanent position, to resist swaying in the wind and displacement by vandalism.

In areas where ground mounted sign supports cannot be sufficiently offset from the pavement edge, sign supports of a suitable breakaway or yielding design should be considered. Breakaway or yielding supports shall be used on freeways and expressways unless the sign supports are adequately shielded by guardrail, crash cushions, or similar devices.

In some cases, especially in urban areas, essential signs can be placed on existing supports used for other purposes, such as traffic signals or street lights, thereby saving expense and minimizing sidewalk obstruction.

4-01.28 Bridges for Sign Supports

Overcrossing structures can, in many cases, serve as a support for overhead signs, and under some circumstances, may be the only practical solution that will provide adequate viewing distance for motorist orientation. Use of such structures as sign supports will eliminate the need for foundations and sign supports along the roadside. On urban freeways and expressways where overhead crossings are closely spaced, it is desirable to place signs on bridges for enhanced safety and economy. On State highways, all signs of this type should be referred to the Office of Structures Design.

4-01.29 Sign Materials

A variety of materials can be used effectively. However, it is recognized that technology may develop new and satisfactory or superior materials for highway signs, particularly in the fields of illumination and retroreflectorization. Nothing in this manual should be interpreted to exclude new material that meets the standard requirements for color and legibility, both by day and by night.

4-01.30 Maintenance

Traffic signs should be kept in proper position, clean and legible. Damaged signs should be replaced without undue delay.

To assure adequate maintenance, a suitable schedule for inspection, cleaning and replacement

of signs should be established. Employees of street and highway organizations, police and other governmental employees whose duties require traveling on the highways should be encouraged to report any damaged or obscured signs.

Special attention and necessary action should be taken to see that weeds, trees, shrubbery and construction materials do not obscure the face of any sign.

A regular schedule of replacement of lighting elements for illuminated signs should be maintained.

4-01.31 Wrong Way Traffic Control

Efforts should be made to identify and make practical corrections to at-grade intersections on divided highways where wrong way movements are being experienced or where a wide median, a rural unlighted environment or other contributing factors indicate the likelihood of wrong way movements.

Where the roadways are separated by a median more than 9 m wide, ONE WAY signs should be placed at the far right and in the median on the left-hand side of traffic entering the highway, as shown in Figure 6-34. For lesser medians, their use is optional. The ONE WAY sign may be supplemented by a Turn Prohibition sign placed in the far right corner of the intersection.

If used, DO NOT ENTER and WRONG WAY signs should be placed on a divided highway at a location to be directly in view of a driver making a wrong way entry from the crossroad. Additional signs may be placed where the median width is 9 m or more.

Standard directional or wrong way arrow pavement markings may be placed in each approach lane of each roadway in advance of a grade intersection and at other selected locations to indicate the direction of traffic flow.

At locations which are determined to have special need, other standard warning or prohibitive methods and devices may be used as a deterrent to the wrong way movement.

See Section 4-05, Ramp Terminal Signing, for details.

4-01.32 Signs Off the State Right-of-Way

CVC 21350 permits the Department of Transportation, with the consent of the local authorities, to place and maintain along city streets and county roads appropriate signs as may be necessary or desirable to direct traffic to State highways. Where a sign beyond the right-of-way line is required for the proper operation of a State highway, such sign should be placed and maintained at State expense.

4-01.33 Relinquished State Highways

When a section of a State highway is relinquished to a local jurisdiction, all signs other than route shields shall be left in place, in accordance with Section 100.9 of the Streets and Highways Code. The District Traffic Engineer shall inform such local agency that studies or other action may be necessary to legalize existing regulatory signs, such as stop signs, speed restriction signs, etc. Unless a bypass highway is established as a business route, all route number shields shall be removed when traffic is shifted to the new alignment and prior to relinquishment of the bypassed section. This includes all route number signs whether individual route shields or part of the legend of guide signs. Appropriate authorities should be notified.

4-01.34 Procedure for State Highways

Standard signing on State highways and all signing governing the control of an intersection of a State highway and the local street is the

responsibility of the District Director of Transportation. Any deviation from standard usage shall be submitted to the Division of Traffic Operations for review and approval. Guide signing plans should be reviewed by local authorities for their concurrence in destination signing for local areas.

Final plans for signs to be installed by contract shall be submitted with the highway plans. Structural details for ground-mounted and overhead signs are included in standard plans prepared by the Office of Structures Design. Appropriate bid items for sign installations must be included in the estimates.

All requests for new or upgraded replacement signs shall be approved by the District Traffic Engineer. This does not prevent maintenance crews from carrying a supply of standard signs on the sign trucks and replacing damaged signs in kind as part of their daily operations.

In ordering new signs for new projects the Districts should submit requisitions to the Office of Business Management in advance, but no more than eight months before the signs are needed. The date the signs are needed should be shown on the requisitions. When conformation of purchase order or sign delivery is not made within requested time of delivery, the District should trace the requisitions through the Office of Business Management.

On projects with a short time limit, it will be necessary to requisition signs before the contract is awarded. In such cases, a special work order is available from the District Accounting Office for use in requisitioning the signs.

Rush delivery can be made in case of extreme emergency. Check current sign contracts for details.

This Page

Left

Blank

Intentionally

Warning Signs 4-02

4-02.1 Application of Warning Signs

Warning signs are used to guide and warn of traffic conditions on or adjacent to a highway or street.

Warning signs alert vehicle operators to use caution, reduce speed or make a vehicle maneuver in the interest of the vehicle operators and pedestrians.

Warning signs shall be reflectorized or illuminated to show the same shape and color both by day and by night, unless otherwise specified in the "Traffic Signs Specifications." Signs may be supplemented with a yellow flashing beacon. The "Traffic Sign Specifications" may be obtained from the Caltrans Publications Distribution Unit, 1900 Royal Oaks Drive, Sacramento, California 95815.

Sign sizes and legends for various type facilities are found in the "Traffic Sign Specifications."

Typical locations and conditions that may warrant the use of warning signs include, but are not limited to:

1. Changes in horizontal alignment
2. Intersections
3. Control devices
4. Converging traffic lanes
5. Narrow roadways
6. Changes in highway design
7. Grades
8. Roadway surface conditions
9. Railroad crossings
10. Entrances and crossings

The warning signs prescribed in this chapter cover most of the situations likely to be encountered. Individual signs should be erected in accordance with Section 4-02.6, "Policy for Individual Warning Signs." Warning signs for highway construction and maintenance operations are shown in Chapter 5, TRAFFIC CONTROLS, of this manual. If other signs are needed, they shall be of standard warning sign color and shape and have brief and easily understood legends.

Determination of the sign, or signs, to be erected shall be on the basis of an engineering study using the following sections as guidelines: 4-02.2 Design of Warning Signs, 4-02.3 Placement of Warning Signs, 4-02.4 Advisory Speed on Curve Warning Signs, and 4-02.6 Policy for Individual Warning Signs.

4-02.2 Design of Warning Signs

Generally, all warning signs shall be diamond shaped (square with one diagonal vertical) with black legend and border on a yellow, reflectorized background. There are exceptions to this rule, such as the rectangular shape used for the Exit Speed sign and for supplemental signs mounted below other warning signs. The round shape is used for the Railroad Crossing sign. These exceptions shall not be construed as permitting deviations from the standard messages where standard messages are applicable. Also, for large warning signs such as overhead signs, the rectangular shape may be used instead of the diamond shape.

Sign sizes should be selected on the basis of sound engineering judgement. The sign sizes available are shown on the individual sheets of the "Traffic Sign Specifications" publication.

To permit the use of standard dies and templates, the outside dimensions of warning signs should ordinarily be in multiples of 150 mm. Letter heights should be rounded to the nearest 25 mm that will best fit the plate used for legibility and appearance.

For use of educational plates with symbol signs see Section 4-01.13.

4-02.3 Placement of Warning Signs

Warning signs shall be erected in accordance with the general requirements for sign position as described in Section 4-01.21 through 4-01.29 and as shown in Figure 4-1.

It is very important that care be given to the placement of warning signs. In rural areas, warning signs should normally be placed about 150 m in advance of the conditions. On high-speed roads, particularly on freeways, the advance warning distance may have to be as great as 450 m or more. Where speeds are relatively low, the advance distance may be only about 75 m.

The actual advance warning distance will be determined by two factors, the prevailing speed and the existing topography. These bear on the time available to the driver to comprehend and react to the message and the time needed by the driver to perform any necessary maneuver.

The effectiveness of the placement of any warning sign should be tested periodically under both day and night conditions.

The placement of temporary warning signs used at highway construction and maintenance sites is covered in Chapter 5, TRAFFIC CONTROLS, of this manual.

4-02.4 Advisory Speed on Curve and Turn Warning Signs

In determining the need for curve or turn warning signs, consideration should be given to driver expectancy based on the driving environment. If the curve can be driven at legal speed without discomfort, there is normally no need for a sign. A curve warning sign should be considered in advance of any curve that produces a reading of 10 degrees on a Ball Bank Indicator at speeds lower than the approach speed. If a curve warning sign is needed, it should be supplemented with an advisory speed message.

A mechanical or electronic Ball Indicator should be used to determine the advisory speed for curves. This speed is shown on the Advisory Speed Plate (W6) that supplements the Curve Warning Signs (W1 and W5) and the Turn Warning Signs (W2 and W3). The advisory speed is also shown on the Special Curve Warning Signs (W4 series) and the Exit and Ramp Speed Signs (W72 and W72A). The Advisory Speed Plate (W6) may also be used with a number of other warning signs. See the sign policy for the Advisory Speed Plate (W6) in Section 4-02.6 for more details.

One method of determining the advisory speed is to drive the curve at several selected uniform speeds and plot the Ball Bank Indicator readings as shown in Figure 4-2. A minimum of three speed runs should be made in each direction.

The limiting Ball Bank Indicator value for comfort is $15\frac{1}{2}$ for speeds of 32 km/h or less, approximately $12.5\frac{1}{2}$ for speeds of 40 to 48 km/h, inclusive and $10\frac{1}{2}$ for speeds of 56 km/h or higher. The speeds shown on the sign shall be in miles-per-hour and should be in 5 mph increments to the lowest appropriate speed found for the condition.

The comfortable speed chart as shown in Figure 4-3 may be used to check calculations or analyze curves on projects that are in the design stage.

4-02.5 Legal Authority

The following sections from the California Vehicle Code pertain to warning signs:

| Sec.No. | Title | Sign |
|-----------------|---|------------|
| 21362 | Railroad Warning Approach Signs | W47 |
| 21364 | Stock Crossing | W67 |
| 21365 | Open Range Warning Signs | W67 |
| 21805 | Equestrian Crossings | W45 |
| 22352 | Prima Facie Speed Limits | W63 & W65 |
| 22452 & 22452.5 | Railroad Crossing Signs and Stop Not Required Signing | W46 & W46A |
| 22504 | Unincorporated Area Parking; School Bus Stops | W64 |

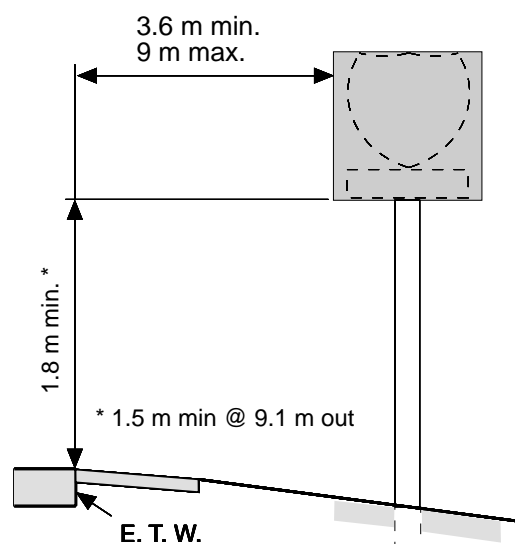
Figure 4-1
TYPICAL HEIGHT AND LATERAL POSITION FOR SIGNS

NOTES

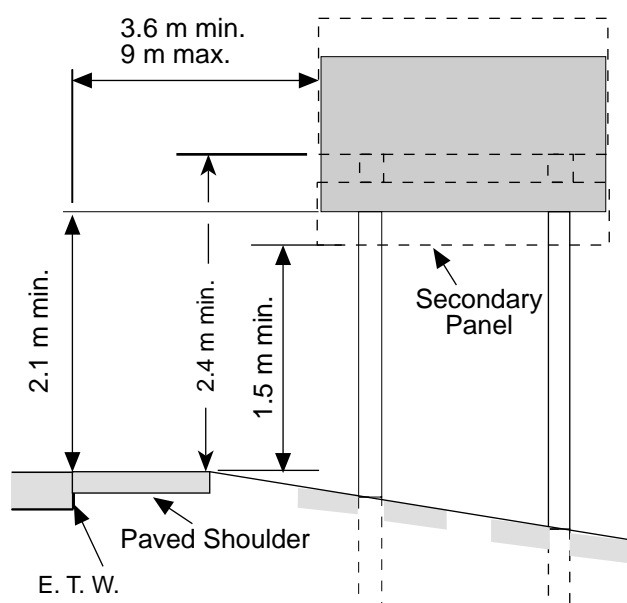
These sign positions are typical and should be considered a standard. When physical conditions require deviation from these typicals, they should be documented. When clear roadside recovery areas are provided, signs shall be placed as far from the traveled way as possible, up to 9 m. When possible, they shall be placed in protected locations.

Signs in medians shall be placed at midpoint of median, up to a maximum distance of 9 m from the edge of the traveled way. When appropriate, signs for opposing directions shall be placed back to back.

E. T. W. = Edge of Traveled Way

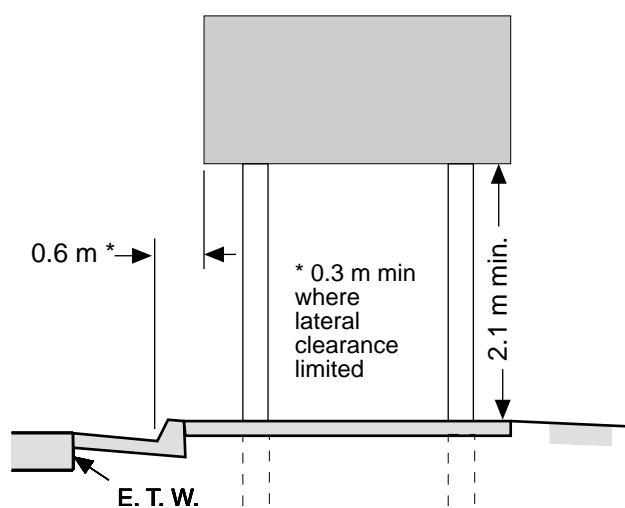


ROUTE SHIELDS
REGULATORY AND WARNING SIGNS

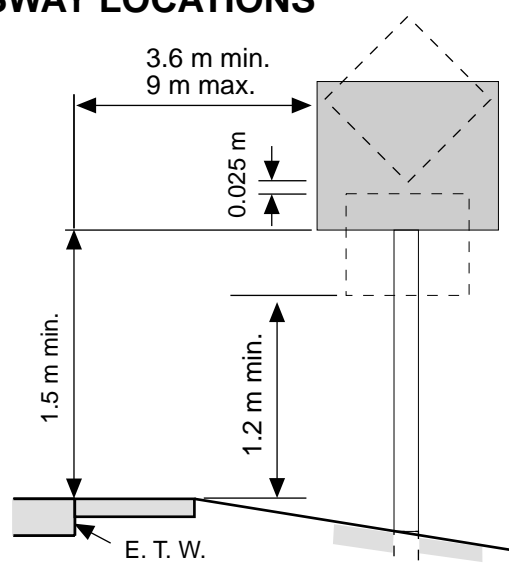


GUIDE SIGNS

FREEWAY AND EXPRESSWAY LOCATIONS



URBAN
LOCATIONS



RURAL
LOCATIONS

CONVENTIONAL HIGHWAYS AND INTERCHANGE AREAS

Figure 4-2

DETERMINATION OF COMFORTABLE SPEED FROM BALL BANK INDICATOR READINGS

Driver _____
Observer _____
Vehicle _____
Date _____

Co. _____ Rte. _____ PM _____
Sta. _____ To _____
Direction _____
Weather _____

Type of Pavement _____
Condition of Pavement _____
Min. Sight Dist. thru Curve _____
Approach Speed
(Estimated or Observed) _____

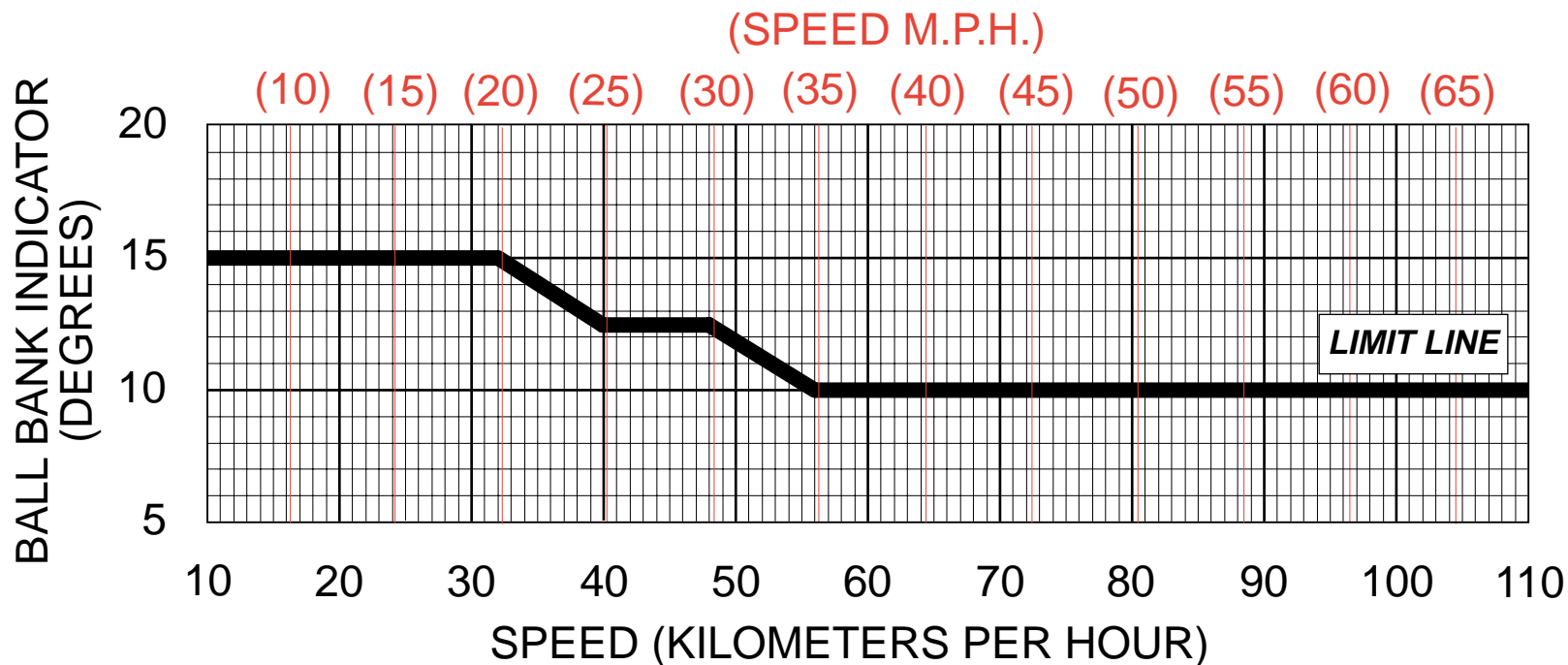
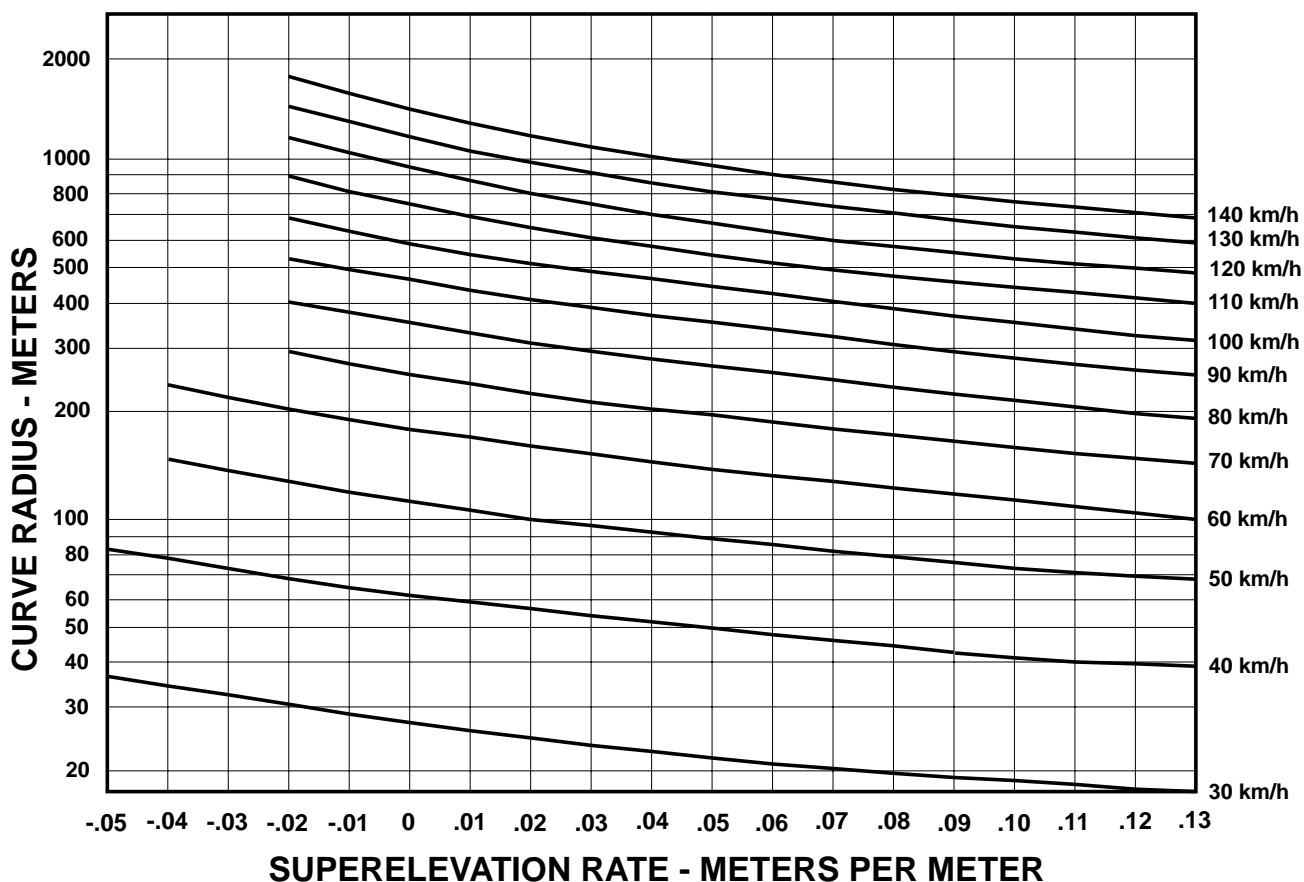


Figure 4-3
COMFORTABLE SPEED ON HORIZONTAL CURVES



Standard Superelevation Rates are shown in the Highway Design Manual on Table 202.2

| SPEED - km/h | *FRICTION FACTOR |
|--------------|------------------|
| 30 | 24.70 |
| 40 | 21.10 |
| 50 | 17.30 |
| 60 | 15.40 |
| 70 | 14.65 |
| 80 | 14.00 |
| 90 | 13.45 |
| 100 | 12.80 |
| 110 | 12.20 |
| 120 | 11.55 |
| 130 | 10.90 |
| 140 | 10.30 |

S = SUPERELEVATION - m per m
 F = FRICTION FACTOR
 V = SPEED - km/h
 R = RADIUS - m

$$S + F = \frac{0.008V^2}{R} \text{ or } S + F = \frac{V^2}{125R}$$

* These factors are the values at which comfort ends and discomfort begins and are unrelated to skidding and loss of traction.

4-02.6 POLICY FOR INDIVIDUAL WARNING SIGNS

POLICY

W1 (Rt.)

*Federal Sign No.**W1-4*

REVERSE CURVE SIGN

The Reverse Curve sign (W1) should be used in advance of two curves in opposite directions that are separated by a tangent of less than 180 m, where the advisory speed is 56 km/h (signed as 35 MPH) or greater. The Advisory Speed Plate (W6) should be used below this sign.

For advisory speeds of 48 km/h (signed as 30 MPH) or less, a Reverse Turn sign (W2) should be used.

The advisory speed shall be determined in accordance with Section 4-02.4.

If the first curve is to the right, a right Reverse Curve sign (W1 Rt) shall be used. If the first curve is to the left, a left Reverse Curve sign (W1 Lt) shall be used.

See the Winding road sign (W14) for policy on the use of curve warning signs in mountainous terrain.

W2 (Rt.)

W1-3

REVERSE TURN SIGN

The Reverse Turn sign (W2) should be used in advance of two turns in opposite directions that are separated by a tangent of less than 180 km, where the advisory speed is 48 km/h (signed as 30 MPH) or less. The Advisory Speed plate (W6) should be used below this sign.

For advisory speeds of 56 km/h (signed as 35 MPH) or greater, a Reverse Curve sign (W1) should be used.

The advisory speed shall be determined in accordance with Section 4-02.4.

If the first turn is to the right, a Reverse Turn sign (W2 Rt) shall be used. If the first turn is to the left, a left Reverse Turn sign (W2 Lt) shall be used.

See the Winding Road sign (W14) for policy on the use of curve warning signs in mountainous terrain.

W3 (Rt.)

W1-1

TURN SIGN

The Turn sign (W3) should be used in advance of turns where the advisory speed is 48 km/h (signed as 30 MPH) or less. This sign may be ordered for either right or left turns. The Advisory Speed plate (W6) should be used below this sign.

For advisory speeds of 56 km/h (signed as 35 MPH) or greater, the Curve sign (W5) should be used.

The advisory speed shall be determined in accordance with Section 4-02.4. See the Winding Road sign (W14) for policy on the use of curve warning signs in mountainous terrain.

POLICY

W4



SPECIAL CURVE /TURN ARROW AND ADVISORY SPEED SIGNS

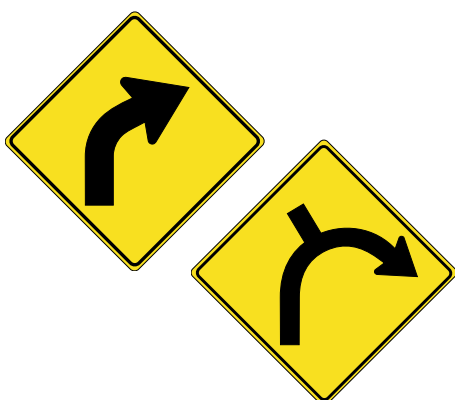
The Special Curve/Turn Arrow and Advisory Speed signs (W4) may be used at problem locations in the head-on position where the standard curve or turn signs have not proven to be effective. Existing pavement markings should also be evaluated.

Existing advance warning signs should be left in place when the W4 sign is erected.

The advisory speed shall be determined in accordance with Section 4-02.4.

CURVE SIGN

W5



W1-2

The Curve sign (W5) should be used in advance of curves where the advisory speed is 56 km/h (signed as 35 MPH) or greater. This sign may be ordered for either right curves or left curves. The Advisory speed plate (W6) should be used below this sign.

For advisory speeds of 48 km/h (signed as 30 MPH) or less, the Turn sign (W3) shall be used.

The advisory speed shall be determined in accordance Section 4-02.4.

See the W14 for policy on the use of curve warning signs in mountainous terrain.

W6



W13-1

ADVISORY SPEED PLATE

The Advisory Speed plate (W6) should be used to supplement curve and turn warning signs. The speed shown shall be a multiple of 5 MPH and shall not be in excess of the posted or maximum speed limit. The advisory speed shall be determined in accordance with Section 4-02.4.

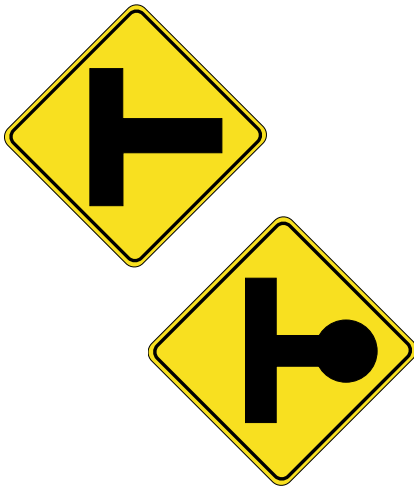
The Advisory Speed plate (W6) may also be used with other warning signs where an engineering analysis determines that the conditions indicate the need for a significant reduction in speed. The typical conditions where an advisory speed may be considered are: "Pavement Ends", "Narrow Road Lane/Lanes", "Rough Road", "Loose Gravel", "Road Narrows", "One Lane Bridge", "Bump", "Dip", etc..

The Advisory Speed Plate shall not be used in conjunction with any sign other than a warning sign, nor shall it be used alone. When used, it shall be positioned below the warning sign.

POLICY

W7

W2-4



SIDE ROAD SIGN

The Side Road sign (W7) may be used in advance of an intersection where conditions make it desirable that the side road be called to the motorists attention. It is not ordinarily installed if advance directional signs are in place.

The sign may also be used on a highway approaching a "T" intersection. The sign should not generally be used on an approach where traffic is required to stop before entering the intersection, nor at a "T" intersection that is channelized by traffic islands, nor where junction signing or advance turn arrows are present.

A supplemental advance Street Name sign may be erected below an intersection warning sign. When combined with a yellow diamond warning sign, the color should be a black message on a yellow background.

A bulb shape may be placed on the appropriate leg of a W7 advance intersection sign to indicate a NOT A THROUGH STREET condition.

W8

W2-5



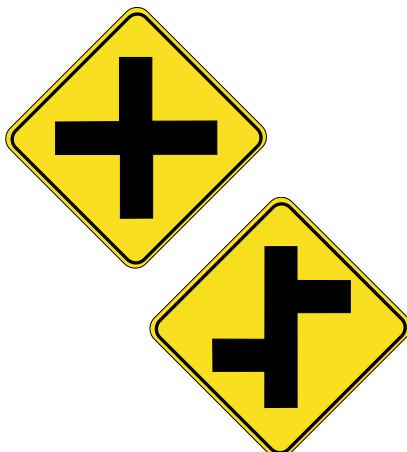
"Y" INTERSECTION SIGN

The "Y" Intersection sign (W8) may be used to warn traffic approaching a Y-intersection on the road that forms the stem of the "Y". The sign should not generally be used at a Y-intersection that is channelized by traffic islands, nor where junction signing or where advance turn arrows are present.

A bulb shape may be placed on the appropriate leg of a W8 advance intersection sign to indicate a NOT A THROUGH STREET condition.

W9

W2-1



CROSS ROAD SIGN

The Cross Road sign (W9) may be used on a through highway to indicate the presence of an obscured crossroad intersection. It is not ordinarily installed if advance directional signs are in place, or if traffic is required to stop.

A supplemental advance Street Name sign may be erected below an intersection warning sign. When combined with a yellow diamond sign, the color should be a black message on a yellow background.

A bulb shape may be placed on the appropriate leg of a W9 advance intersection sign to indicate a NOT A THROUGH STREET condition.

The diagram for a cross road intersection with a slight offset should indicate that the side roads are not opposite each other.

POLICY

W10



W10-2

**RAILROAD ADVANCE WARNING
CROSSROAD SIGN**

The Railroad Advance Warning - Crossroad sign (W10) may be used in advance of a crossroad intersection where a railroad runs parallel to the highway and the separation between the railroad and the highway is 30 m or less. If the separation distance is more than 30 m, a W47 sign should be installed in advance of the railroad and the W10 would not be necessary.

See Figures 6-40, 6-41 and 6-42 for typical examples of railroad grade crossing signing and pavement marking.

W10A



W10-3

**RAILROAD ADVANCE WARNING
SIDEROAD SIGN**

The Railroad Advance Warning - Sideroad sign (W10A) may be used in advance of a sideroad intersection where a railroad runs parallel to the highway and the separation between the railroad and the highway is 30 m or less. If the separation distance is more than 30 m, a W47 sign should be installed in advance of the railroad and the W10A sign would not be necessary.

See Figures 6-40, 6-41 and 6-42 for typical examples of railroad grade crossing signing and pavement marking.

W10B



W10-4

**RAILROAD ADVANCE WARNING
"T" INTERSECTION SIGN**

The Railroad Advance Warning - "T" Intersection sign (W10B) may be used in advance of a crossroad intersection where a railroad runs parallel to the highway and the separation between the railroad and the highway is 30 m or less. If the separation distance is more than 30 m, a W47 sign should be installed in advance of the railroad and the W10B sign would not be necessary.

See Figures 6-40, 6-41 and 6-42 for typical examples of railroad grade crossing signing and pavement marking.

POLICY

W11



W4-2

PAVEMENT WIDTH TRANSITION SIGN

A Pavement Width Transition sign (W11) should be used to warn of a reduction in the number of traffic lanes in the direction of travel.

It shall not be used in advance of the end of an acceleration lane.

See Figure 6-15, "Typical Lane Reduction Transition", Figure 6-16, "Transition from Two-Lane to Four-Lane Divided" and Figure 6-18, "Signing and Marking Passing Lanes", for further information.

W14



W1-5

WINDING ROAD SIGN

The Winding Road sign (W14) should be used where there is a series of turns or curves which requires driving caution, and where curve or turn signs would be too numerous to be effective. This sign should be erected in advance of the second curve of the winding section of highway. The first curve should be marked with a curve or turn sign and an Advisory speed plate (W6).

Where the winding road is 1.6 km or more in length, the W14 sign should be supplemented by a NEXT ----- MILES PLATE (W71).

W15



W5-1

ROAD NARROWS SIGN

A Road Narrows sign (W15) may be used in advance of a location on a two-lane road where the lane width is reduced but the narrower width still permits operation as a two-lane highway.

Additional protection may be provided by the use of delineators and object markers.

W16

**GROOVED PAVEMENT SIGN**

The Grooved Pavement sign (W16) should be used in locations where the pavement has recently been grooved longitudinally to improve its wet weather traction to alert motorcyclists and motorists of a highway surface that has been grooved. The sign may be removed when the grooves become worn. Use of this sign should be limited to locations where experience indicates it is necessary to inform motorists of the existence of this type surface.

POLICY

STOP AHEAD SYMBOL SIGN

W17



W3-1A

The Stop Ahead symbol sign (W17) should be used where visibility is restricted, where high approach speeds require advance warning, and at unexpected stop sign locations.

On freeway exit ramps where a stop is required at the ramp terminal, a 1200 mm x 1200 mm W17 sign shall be used.

The W17 should not be used in the approach to an intersection where there is channelization and the majority of the traffic turns to the right without being required to stop.

The STOP AHEAD pavement markings may be placed in accordance with Section 6-02.14.

W18



W8-4

SOFT SHOULDER SIGN

The Soft Shoulder sign (W18) may be used to warn motorists of a soft shoulder condition. It should be removed when the condition no longer exists.

W19



W8-3

PAVEMENT ENDS SIGN

A Pavement Ends sign (W19) should be used to warn motorists where a pavement changes from a hard-surfaced pavement to a non-paved surface or earth road.

W23

W5-2

NARROW BRIDGE SIGN

The Narrow Bridge sign (W23) should be used in advance of a bridge or culvert having a clear roadbed width of 4.8 m to 8.5 m.

The W23 sign is not normally used on low volume roads where the width of the bridge or culvert is greater than the approach.

See the One Lane Bridge sign (W36) for roadbed widths less than 5.5 m.

See Figure 6-48, "Narrow Bridge Signing and Markings" for details.

The word "Subway" may be used instead of "Bridge" where applicable.

W25

W6-1

DIVIDED HIGHWAY (ROAD) SYMBOL SIGN

A Divided Highway (Road) symbol sign (W25) may be used on the approaches to a section of highway (not an intersection) where the opposing flows of traffic are separated.

Existing Divided Highway (Road) word message signs may remain in place until maintenance is required.

See Figure 6-16, "Transition From Two-Lane to Four-Lane Divided".

W26

W6-2

DIVIDED HIGHWAY (ROAD) ENDS SYMBOL SIGN

The Divided Highway (Road) symbol sign (W26) shall be used at the end of a section of divided highway (not an intersection or junction) as a warning of two-way traffic ahead.

Existing End Divided Highway (Road) word message signs may remain in place until maintenance is required.

See Figure 6-16, "Transition from a Two-Lane to Four-Lane Divided".

W28

W3-2a

YIELD AHEAD SYMBOL SIGN

The Yield Ahead symbol sign (W28) should be used on an approach to a Yield sign (R1-2) that is not visible for a sufficient distance to permit the motorist to bring his vehicle to a stop. Obstruction(s) causing the limited visibility may be permanent or intermittent.

Existing Yield Ahead word message signs may remain in place until maintenance is required.

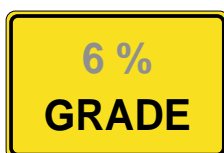
POLICY

W29



W7-1

W29A



W29B



W29C



W7-2b

W30



W7-4

HILL SYMBOL SIGN

The Hill symbol sign (W29) should be used in advance of a downgrade where the length, percent of grade, horizontal curvature, or other physical features require special precautions on the part of the motorist. Grades which may warrant consideration are :

- 6% grade and more than 600 m long
- 7% grade and more than 300 m long
- 8% grade and more than 225 m long
- 9% grade and more than 150 m long

These signs should also be installed for steeper grades or where accident experience and field observations indicate a need.

The ----- % Grade plate (W29A) or ----- % Grade ----- Miles plate (W29B), as appropriate shall be used below the W29 sign.

The Trucks Use Lower Gear plate (W29C) should be used with the W29 as a second installation where hill conditions warrant special emphasis.

Existing Hill word message signs may remain in place until maintenance is required

RUNAWAY TRUCK RAMP MILE SIGN

The Runaway Truck Ramp --- Mile sign (W30) shall be used 1.6 km and 0.8 km in advance of runaway truck ramps designed to decelerate and stop runaway trucks.

W30A



W7-4A

POLICY

RUNAWAY TRUCK RAMP SIGN

The Runaway Truck Ramp sign (W30A) shall be placed in the neutral area (gore) at the runaway truck ramp.

The Runaway Vehicles Only sign (R8) shall be installed on the right-hand side of the ramp.

No Stopping Anytime signs [R26A(S)] shall be placed to keep motorists from stopping in the path of runaway trucks.

W31



W14-1

END SIGN

The End sign (W31) may be used where a street or highway ends. Install in a head-on position in combination with a Type N marker (red).

See the W31A and W53 series signs for advance signing.

See Figures 6-51 and 6-52, "Typical Object Markers" for details.

W31A



ROAD ENDS

The Road Ends ----- Ft sign (W31A) may be used in advance of the End sign (W31).

W32



W8-2

DIP

The Dip sign (W32) should be used to give warning of a depression in the roadway that is sufficiently abrupt to cause considerable discomfort to motorists, to cause a shifting of the cargo, or to deflect a vehicle from its course at normal driving speeds.

It may be desirable to supplement this sign with an Advisory Speed plate (W6).

This sign shall not be used at a short stretch of depressed alignment that may momentarily hide a vehicle. Such a condition should be treated as a no-passing zone.

POLICY

W33



W8-8

ROUGH ROAD SIGN

The Rough Road sign (W33) may be used in advance of a section of rough road where a reduction in speed may be necessary for a motorist's comfort.

It may be desirable to supplement this sign with an Advisory Speed plate (W6).

Where the rough road is 1.6 km or more in length, the W33 sign may be supplemented with a Next ____ Miles plate (W71).

W34



W12-2

LOW CLEARANCE SIGN

The Low Clearance sign (W34) shall be used to warn motorists of low structure clearances.

If the clearance is less than 4.5 m, the W34 sign shall be mounted over the roadway on the structure.

If the clearance is less than 4.3 m, the W34 sign and the W34A plate should be placed in advance of the nearest intersecting highway or wide point in the roadway at which a motorist can detour or turn around.

The actual clearance is normally shown on the sign to the nearest inch not exceeding the actual clearance.

Clearance should be checked periodically, particularly in areas where resurfacing operations have taken place.

The _____ Miles Ahead plate (W34A) should be placed below the W34.

W34A



W34B



VERTICAL CLEARANCE ____ FT. ____ IN. SIGN

The Vertical Clearance sign (W34B) may be used as an alternate to the Low Clearance sign (W34), where space is restricted on the structure.

See W34 for details.

W36



W5-3

ONE LANE BRIDGE SIGN

The One Lane Bridge sign (W36) shall be used in advance of a bridge or culvert having a clear roadbed width less than 4.9 m, or less than 5.5 m if any of the following conditions exist:

- Truck traffic is more than 10% of ADT
- Approach roadway alignment is poor
- Surrounding environment is distracting

See Figure 6-48, "Narrow Bridge Signing and Markings" for details.

POLICY

BUMP SIGN

W37



W8-1

The Bump sign (W37) should be used to give warning of a rise in the roadway that is sufficiently abrupt to cause considerable discomfort to motorists, to cause shifting of the cargo, or to deflect a vehicle from its course at normal driving speeds.

It may be desirable at some locations to supplement this sign with an Advisory Speed plate (W6).

The Bump sign shall not be used at a short stretch of vertical alignment that may momentarily hide a vehicle. Such a condition should be treated as a no-passing zone.

W38



SLIDE AREA SIGN

The Slide Area sign (W38) may be used in advance of where slides on the highway could be expected.

The Next ----- Miles plate (W71) may be used below the W38 sign.

W41



W3-3

The Signal Ahead symbol sign (W41) should be used:

1. In advance of any unexpected signalized location
2. Where approach speeds exceed 72 km/h
3. On signalized freeway exit ramps

On freeway exit ramps where the ramp terminal is signalized, a 1200 mm x 1200 mm sign shall be used. Where there is insufficient room for both the W41 sign and the Advisory Speed sign (W72), the W41 sign shall be used.

The W41 signs on the approaches to State highways are normally installed and maintained by the State.

A rectangular Signal Ahead sign (W41A) may be used for overhead mastarm and overhead structure mounted locations.

Existing word message Signal Ahead ground-mounted signs may remain in place until maintenance is required.

W41A



SIGNAL AHEAD SIGN

The Signal Ahead sign (W41A) may be used for overhead mastarm and overhead structure mounted locations.

POLICY

SLIPPERY WHEN WET SYMBOL SIGN

W42

W8-5



The Slippery When Wet symbol sign (W42) may be used to warn of a condition where the highway surface may become extraordinarily slippery.

It should be located in advance of the beginning of the slippery section and at appropriate intervals on long sections of such pavement.

The sign should be removed when the condition requiring it no longer exists.

ICY SIGN

W43



The Icy sign (W43) may be used in advance of locations where an icy condition requires extra caution. It should be used on mountain roads which may be continuously in the shade and where ice forms during the greater part of the winter. This sign should be covered or removed at the end of the winter season or when the icy condition no longer exists.

The sign should be located in advance of the beginning of the icy sections.

TWO-WAY TRAFFIC SIGN

W44

W6-3



The Two-Way Traffic sign (W44) Should be used to give warning of a transition from a divided highway to a two-way highway. It should also be used at locations where a divided highway illusion may cause motorists to think that they are on a one-way roadway when in fact they are on a two lane two-way highway. Typical situations are construction sites where a two-lane highway is being converted to an expressway or a freeway; where ultimate freeway or expressway right-of-way has been purchased and grading for full width has been completed; or on two-lane highways between or following long sections of completed freeway.

See Figure 6-16, "Transition From Two-Lane to Four-Lane Divided", and Figure 6-43, "Treatment For Divided Highway Illusion".

The Two- Way Traffic word message sign may remain in place until maintenance is required.

EQUESTRIAN SYMBOL SIGN

W45

W11-7



The Equestrian symbol sign (W45) may be used in advance of a public bridle path crossing which is frequently used and not readily apparent to motorists (See CVC 21805). It may also be used to warn motorists of established bridle paths adjacent to the roadway.

The Next ____ Miles plate (W71) or the Xing plate (W80), should be used below the W45 sign.

POLICY

EXEMPT PLATE

W46

W10-1A



The Exempt plate (W46) shall be used at exempt crossings established after 1/1/78 in accordance with CVC 22452.5. The CVC provides that any vehicle listed in CVC 22452(a) must stop at these exempt crossings.

The black on yellow background W46 plate will notify the drivers of the affected vehicles, of the exempt crossings at which they must stop. Those placed prior to 1/19/78 shall be replaced in kind with a W46A sign.

This plate shall be mounted below the W47 sign.

W46A



EXEMPT SIGN

The Exempt sign (W46A) shall only be used at exempt railroad crossings established by the Public Utilities Commission prior to 1/1/78, (CVC 22452). No vehicle is required to stop. This sign shall be replaced in kind.

The W46 (black legend and border on yellow background) shall be used at exempt crossings established after 1/1/78, (CVC 22452.5).

W47

W10-1



RAILROAD ADVANCE WARNING SIGN

The Railroad Advance Warning sign (W47) shall be placed in advance of railroad grade crossings on all State highways.

This sign is also required on all streets and highways under local authority, in accordance with CVC 21362.

Typical examples of signing and pavement markings are shown in Chapter 6, Figures 6-40, 6-41 and 6-42.

W48

R15-2



RAILROAD CROSSING PLATE

The _____ Tracks plate (W48) shall be used at all grade crossings with two or more tracks and placed below the W47 sign.

The number on the plate denotes the number of tracks.

POLICY

W49



DRAW BRIDGE SIGN

The Draw Bridge sign (W49) shall be used in advance of all movable bridges to give motorists time to stop when the bridge is open.

Where physical conditions prevent a motorist driving at the legal speed limit from having a continuous view of at least one signal indication before reaching the stop line, an auxiliary device should be provided in advance of movable bridge signals and gates. This device may be either a supplemental signal or the mandatory Draw Bridge sign to which has been added a flashing yellow beacon interconnected with movable bridge control.

W50-1



ROCK SLIDE AREA SYMBOL SIGN

The Rock Slide Area symbol sign (W50-1) should be used where rocks from hillsides or cut slopes frequently fall on the traveled way.

The Next _____ Miles plate (W71) may be used below the W50-1 sign.

Existing Rock Slide Area signs may remain until maintenance is required.

W51



SLOW TRUCK SIGNS

The Slow Trucks sign (W51) may be used to inform drivers that slow moving trucks substantially interfere with the flow of traffic.

The Next _____ Miles plate (W71) may be used with the W51 sign.

W53

**NOT A THROUGH STREET (ROAD) SIGN**

The Not A Through Street (Road) sign (W53) may be used near the entrance to a dead-end street, dead-end road or a dead-end cul-de-sac.

W53A

**NO OUTLET SIGN**

W14-2

The No Outlet sign (W53A) may be posted at the entrance to a street which leads to a network of two or more streets from which there is no public outlet.

W54

**PEDESTRIAN CROSSING SYMBOL SIGN**

W11A-2

The Pedestrian Crossing symbol sign (W54) may be used only at a marked crosswalk when entry into the roadway by pedestrians at a specific location is not apparent to the motorist. It shall not be used if the crossing is controlled by a stop sign or traffic signal.

The sign should be located adjacent to, or up to 15 m in advance of, the crossing.

When the W54 is used, a W54A may be placed as advance warning when visibility is limited.

W54A

**PEDESTRIAN SYMBOL SIGN**

W11-2

The Pedestrian symbol sign (W54A) may be used in advance of a pedestrian crosswalk or crossing area and in advance of the Pedestrian Crossing sign (W54).

The pedestrian crossing may be relatively confined, or may occur over a substantial distance of roadway. At these locations, a Next _____ Miles plate (W71) should be used below the W54A, as appropriate.

These signs are not normally placed in urban areas where motorists would expect pedestrians.

POLICY

W55



FLOODED SIGN

The Flooded sign (W55) should be used in advance of locations where the highway is flooded. The signs shall be removed or covered when the condition no longer exists.

See W55B for signing at locations where it is anticipated that the highway may periodically flood.

W55B



SUBJECT TO FLOODING SIGN

The Subject To Flooding sign (W55B) may be used for signing in advance of locations where it is anticipated that the highway may periodically flood.

This sign may be supplemented by a Next _____ Miles plate (W71).

W56



DOUBLE HEAD ARROW SIGN

W1-7

The Double Head Arrow sign (W56) may be used on the far side of a "T" intersection in line with, and at right angles to, approaching traffic.

See Figures 6-51 and 6-52, "Typical Object Markers" for additional details.

W57



SINGLE HEAD ARROW SIGN

W1-6

The single Head Arrow sign (W57) may be used to give notice of a sharp change of alignment.

See Figures 6-51 and 6-52, "Typical Object Markers".

POLICY

W58



W12-1

DOUBLE ARROW SIGN

The Double Arrow sign (W58) may be used to mark obstructions in the roadway where traffic is permitted to pass on either side.

The sign should normally be mounted at a height of 2.1 m from the pavement to the bottom of the sign. On an island, it should be mounted at the approach end or as close thereto as practicable. It should be mounted on the face of, or just in front of a pier or other large obstruction, in which case stripe markings on the obstruction should be discontinued to leave a 76 mm space around the outside of the sign.

Where all traffic must keep to the right of the island or other obstruction, the Keep Right regulatory sign (R7) should be used.

MERGE SYMBOL SIGN

The Merge symbol sign (W59) should be used in advance of converging roadways where merging or weaving must be accomplished in a relatively short distance.

The installation of the sign should take the following points into consideration; it should be erected a minimum of 45 m in advance of the paved gore area at freeway entrance ramps, and it should be erected on the side of the major roadway on which merging traffic will be encountered and in such a position as to not obstruct the motorists view of vehicles entering the roadway. Ordinarily, the motorists on minor or ramp roadway are aware that they may have to merge with other traffic, but an additional sign may be placed on the entering roadway as a reminder.

Where an extra lane has been added for the approach traffic to the major roadway, and a merge is not necessary within approximately 0.8 km, the Added Lane sign (W60) should be used.

W59



W4-1

ADDED LANE SYMBOL SIGN

The Added Lane symbol sign (W60) should be used in lieu of the Merge symbol sign (W59) when an extra lane has been provided for traffic entering the major roadway.

When installed at freeway entrance ramps, the sign installation should be a minimum of 45 m in advance of the paved gore area.

If the extra lane is less than approximately 0.8 km in length, use the Merge sign (W59).

W60



W4-3

W61A

*E11-1b*

W61B

*E11-1b*

W61C

*E11-1a*

W61D

*E11-1*

W61E



W62

*W11-5*

LANE DROP SIGNS

The Exit Only Lane Drop signs (W61A, W61B, W61C, W61D, and W61E) shall be used with overhead directional signs to identify lanes that drop at a freeway exit ramp.

The W61C is used with the G85 near the freeway exit.

The W61D is used with the G83 in advance of a freeway exit when two lanes are dropped. Typical examples are shown in Figure 6-13, "Lane Drop Signing and Markings at Exit Ramps" and Figure 6-14, "Freeway to Freeway Connector Signing and Markings".

FARM EQUIPMENT SYMBOL SIGN

The Farm Equipment symbol sign (W62) may be used to advise motorists that they are in a farming area where farm equipment may be expected on the roadway. The Next _____ Miles plate (W71) or the Xing plate (W80), should be used below the W62.

POLICY

W63



S1-1

ADVANCE SCHOOL SYMBOL SIGN

The Advance School symbol sign (W63) may be used in advance of remote school crosswalks outside of the school zone. On streets with prima facie 25 MPH speed limit that are contiguous to a school building or school grounds, it is combined with a School plate (W65) to form an Installation A, used to inform drivers that are entering a school zone. See Chapter 10 "School Area Pedestrian Safety" for further information and examples of application.

W64



S3-1

SCHOOL BUS STOP _____ FT SIGN

The School Bus Stop ____ Ft. sign (W64) may be used to give advance notice of approved school bus stops where clear sight distance is less than 200 Ft. (See CVC 22504). The W64 sign shall be placed far enough in advance of the obscured bus stop to allow traffic to take appropriate action.

W65



S4-3

SCHOOL PLATE

The School plate (W65) is not used alone. On streets with prima facie 25 MPH speed limit, it is combined with a W63 to form an Installation A. On streets with higher speed limits, it is combined with a R2 (25) and a R72 to form Installation C, used to inform drivers they are entering a school zone with a 25 MPH speed limit at certain times. See Chapter 10, "School Area Pedestrian Safety" for further information and examples of application.

W66



S2-1

SCHOOL CROSSING SYMBOL SIGN

The School Crossing symbol sign (W66) is combined with the School Xing plate (W66A) to form an Installation B, which may be used at marked school crosswalks on the "Suggested Route to School". It shall not be used where the crossing is controlled by a yield sign, stop sign or traffic signal. See Chapter 10, "School Area Pedestrian Safety" for further information and examples of application.

W66A



The W66 and W66A should usually be posted at the crosswalk, but may be posted up to 15 m in advance.

POLICY

CATTLE SYMBOL SIGN

W67



W11-4

The Cattle symbol sign (W67) may be used in advance of locations where livestock cross the highway. See CVC 21364 and 21365.

The Next ____ Miles plate (W71) should be used below the W67 sign at the beginning of the open range and at appropriate intervals. The Xing plate (W80) should be used with the W67 sign at a specific crossing.

W68



W4-3

DEER SYMBOL SIGN

The Deer symbol sign (W68) should be used in advance of areas where deer cross the highway and in areas known to be inhabited by deer.

The Next ____ Miles plate (W71) should be used below the W68 sign at the beginning of areas where deer have been known to cross the roadway with some frequency. The Xing plate (W80) should be used with the W68 sign at a specific crossing.

The sign should be used only after confirmation from a Department of Fish and Game warden having jurisdiction in the area that a substantial problem exists.

W69



END FREEWAY _____ MILE SIGN

The End Freeway _____ Mile sign (W69) should be used at locations where traffic leaving the freeway comes into a lower standard highway. At problem locations dual installations with yellow flashing beacons or overhead installations should be considered.

The W69 should also be used at transitions from freeways to expressways. Also see the Cross Traffic Ahead sign (W70).

W70



CROSS TRAFFIC AHEAD SIGN

The Cross Traffic Ahead sign (W70) should be used at locations where traffic leaves a freeway section and enters an expressway section to warn motorists that crossing at grade may be expected.

Where two sections of freeway are connected by an section of expressway of a relatively short distance, the Next ____ Miles plate (W71) may be installed below the W70 sign.

POLICY

W71



W7-3a

NEXT _____ MILES PLATE

The Next _____ Miles plate (W71) should be used to indicate the length of the condition shown on the primary warning sign mounted above it, such as the Cross Traffic Ahead sign (W70). The mileage shown should be to the nearest 1/4 mile for distance less than one mile and to the nearest mile for distances over one mile.

ADVISORY EXIT SPEED SIGN

W72



W13-2

The Advisory Exit Speed sign (W72) should be placed on the right of exit ramps just beyond the neutral area (gore) to advise motorists of the speed at which the exit ramp can be comfortably negotiated.

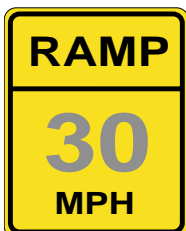
Where there is a signal or a Stop at the exit ramp terminal, a Signal Ahead symbol sign (W41) or Stop Ahead symbol sign (W17) should also be used.

Consideration should also be given to the speed at which traffic can enter the surface street at the end of the ramp if a stop is not required.

The W72 is not required for an exit ramp that has tangent alignment, e.g. diamond exit ramp, and terminates at a stop sign or a signal. The Stop Ahead symbol sign (W17) or Signal Ahead symbol sign (W41) should be used in lieu of the W72.

Where additional warning is needed for ramp curvature beyond the neutral area (gore), a curve warning sign and an advisory speed should be posted. The advisory speed shall be determined in accordance with Section 4-02.4.

W72A



W13-3

ADVISORY RAMP SPEED SIGN

The Advisory Ramp Speed sign (W72A) shall be placed on the right of the freeway to freeway connector ramps just beyond the neutral area (gore) where the ramps cannot be comfortably negotiated by motorists at approach speeds.

Where additional warning is needed for ramp curvature beyond the neutral area (gore), a curve warning sign and advisory speed should be posted. The advisory speed shall be determined in accordance with Section 4-02.4.

POLICY

W73



RIGHT (LEFT) LANE MUST EXIT SIGN

The Right (Left) Lane Must Exit sign (W73) shall be placed between the Thru Traffic Merge Left sign (W74) and the Right (Left) Lane Must Exit sign (R18A) at locations where overhead Exit Only signs (W61) are not in place for lane drops at freeway exit ramps.

See Figure 6-13, "Lane Drop Signing and Marking at Exit Ramps".

W74



THRU TRAFFIC MERGE LEFT (RIGHT) SIGN

The Thru Traffic Merge Left (Right) sign (W74) shall be used on freeways and expressways and may be used by local jurisdictions to inform motorists that the outside or inside lane is being dropped at the next exit, and through traffic must merge into the adjacent lane. This sign should not be used for a lane reduction. See the Lane Ends Merge Left (Right) sign (W75).

See Figure 6-13, "Lane Drop Signing and Marking at Exit Ramps".

W75



LANE ENDS MERGE LEFT (RIGHT) SIGN

W9-2

The Lane Ends Merge Left (Right) sign (W75) should be used to warn of the reduction in the number of traffic lanes in the direction of travel. It is not used in advance of the end of an acceleration lane.

This sign should be used in conjunction with the Pavement Width Transition symbol sign (W11).

This sign is not to be used for a lane drop at an exit. See the Thru Traffic Merge Left (Right) sign (W74).

See Figure 6-15, "Typical Lane Reduction Transition".

W79



W11-1

BICYCLE SYMBOL SIGN

The Bicycle symbol sign (W79) may be used to warn motorists of an officially designated bike facility crossing the roadway.

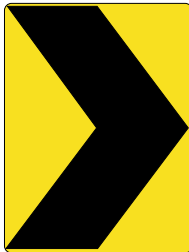
The W79 may also be used to warn of unexpected bicycle traffic on the traveled way as determined by an engineering study.

The Next ___ Miles plate (W71) or the Xing plate (W80), should be used below the W79 sign.

The W79 sign may also be used, without a plate, in advance of a bicycle crossing to supplement the crossing installation when additional emphasis is needed.

W80*W11-1***XING PLATE**

The Xing plate (W80) may be used below the standard warning symbol sign such as Bicycle, Pedestrian Crossing, Cattle, Deer, etc., at the point of crossing.

W81*W1-8***CHEVRON ALIGNMENT SIGN**

The Chevron Alignment sign (W81) may be used to provide additional emphasis or guidance for motorists on curves on streets or highways.

The W81 signs may be used to supplement standard signs and delineation that have not proven to be effective.

Spacing of the W81 signs should be such that the motorist has a minimum of three signs in view at any point on the curve the curve.

W83*R4-2***PASS WITH CARE SIGN**

The Pass With Care sign (W83), when used, shall be positioned below the W44 Two Way Traffic sign where two-way traffic is being routed over a single roadway of a divided highway and passing is permitted.

W84**TURNOUT 1/4 MILE**

The Turnout 1/4 Mile sign shall be used to give advance notice of turnouts for slow-moving vehicles.

See Chapter 6, Section 6-02.2 and Figure 6-22 for additional details.

Regulatory Signs 4-03

4-03.1 Application of Regulatory Signs

Regulatory signs inform highway users of traffic laws and regulations and are installed only when and where needed to fulfil this purpose. Signs are not ordinarily needed to confirm rules of the road.

State laws specify that certain regulations are enforceable only when made known by official signs.

Some regulatory signs are related to operational controls but do not impose any obligations or prohibitions. For example, signs giving advance notice of, or marking the end of, a restricted zone are included in the regulatory group.

Regulatory signs are usually installed at the locations where the regulations apply. The sign message shall indicate the requirements imposed by the regulation and be visible and legible to the highway user. Except parking restrictions, two regulatory signs for different purposes facing the same traffic should not be mounted on the same post.

Orders, ordinances and resolutions by local authorities which affect State highways require approval by Caltrans. Signs required for enforcement are normally placed by, and at the expense of, the authority establishing the regulation.

Criteria for position and location of signs are listed in Section 4-01.

4-03.2 Classification of Regulatory Signs

Regulatory signs are classified in the following groups:

1. Right of way series
 - (a) STOP sign
 - (b) YIELD sign
2. Speed series
3. Movement series
4. Parking series
5. Pedestrian series
6. Miscellaneous series

4-03.3 Design of Regulatory Signs

Regulatory signs are rectangular, with the longer dimension vertical, and have a black legend on a white background, except STOP, YIELD, WRONG WAY and most signs in the parking series. See Section 4-03.4, Parking and Stopping Restriction Sign Series.

All regulatory signs, except for parking restriction signs, shall be reflectorized or illuminated to show the same shape and color both by day and by night, unless excepted in the Traffic Sign Specifications.

For use of educational plates with symbol signs, see Section 4-01.13.

4-03.4 Parking and Stopping Restriction Sign Series

General Policy

Parking signs and other signs governing the stopping and standing of vehicles cover a very wide variety of regulations. Typical examples are illustrated herein, but many other wordings may be found necessary to fit local conditions.

The legend on parking signs shall state whatever regulations apply, but the sign shall conform to the standards of shape, color, location and use. Generally, parking signs should display the following information, as appropriate, in the order listed:

1. Restriction or prohibition.
2. Time of day it is applicable.
3. Days of week applicable, if not every day.

Where parking or stopping is prohibited at all times or at specific times, the prohibition signs shall have red letter and border on a white background. Where only limited-time parking or parking in a particular manner is permitted, the restriction signs shall have green letters and borders.

Where parking or stopping is prohibited during certain hours and parking is permitted under a time

limit at other periods of the day, two signs should ordinarily be used, the red above the green. As an alternative, both messages, in different colors, may be used in single plate, with the sign lengthened vertically if necessary.

At the transition point between two parking zones it may be advantageous to use a larger sign, instead of two signs. This is, in effect, two standard signs mounted side by side. Such a sign should display a right and left arrow pointing in the directions that the respective restrictions apply.

Where it is essential that all traffic lanes be kept open for moving traffic, some city authorities make it a practice to tow away illegally parked vehicles. To make the parking regulations more effective and to improve public relations by giving a definite warning, TOW-AWAY may be appended to, or incorporated in, any parking prohibition sign.

When parking signs with arrows are used to indicate the extent of the restricted zones, the signs should be set at an angle of not less than $30\frac{1}{2}$ nor more than $45\frac{1}{2}$ with the line of traffic flow to be visible to approaching traffic.

Care should be exercised to see that the single arrows point in the proper direction to indicate the regulated zone. Where the zone is unusually long, supplemental signs are desirable at intermediate points within the zone.

If the signs are mounted at an angle of $90\frac{1}{2}$ to the curb line, two signs shall be mounted back to back at the transition point between two parking zones, each with the appended plate reading THIS SIDE OF SIGN. At intermediate points within a zone, a single sign without any arrow or appended plate should be used, facing in the direction of approaching traffic.

In rural districts, special parking prohibition signs may be used to emphasize that no person shall stop, park, or leave standing, any vehicle on the paved or traveled part of the highway.

4-03.5 Other Regulatory Signs

Regulatory signs other than those classified and specified in this manual may be required to aid the enforcement of other laws or regulations. Their use is sufficiently obvious to require no detailed specifications. Care should be taken to avoid the use of special signs when a standard sign would serve the purpose.

4-03.6 INDIVIDUAL POLICIES FOR REGULATORY SIGNS

POLICY

R1

*Federal Sign No.**R1-1*

R1-3

*R1-3*

R1-4

*R1-4***STOP SIGNS, SUPPLEMENTAL PLATES AND YIELD SIGNS**

- STOP SIGN**

The Stop sign (R1) shall be used where traffic is required to stop except at signalized intersections. The Stop sign shall be an octagon with white message and border on a red background.

At a multiway stop intersection, a supplemental plate (R1-3 or R1-4), may be used. When used, they should be mounted below each Stop sign. The numeral on the supplementary plate shall correspond to the number of approach legs, or the legend All-Way (R1-4) may be used. The plate shall have white letters and border on a red background. The supplemental plates R1-3 and R1-4 should not be used at intersections with State highways.

A red flashing beacon, or beacons may be used in conjunction with a Stop sign. See Section 9-05, "Flashing Beacons".

Secondary messages shall not be used on Stop sign faces.

- Warrants for Stop Signs**

Because the Stop sign causes a substantial inconvenience to motorists, it should only be used where warranted. A Stop sign may be warranted at an intersection where one or more of the following conditions exist:

1. On the less important road at its intersection with a main road where accident history justifies the placement of Stop signs.
2. On a county road or city street with its intersection with a State highway.
3. At the intersection with two main highways. The highway traffic to be stopped depends on approach speeds, volumes and turning movements.
4. On a street entering a legally established through highway or street.
5. On a minor street where the safe approach speed to the intersection is less than 16 km/h.
6. At an unsignalized intersection in a signalized area.
7. At other intersections where a combination of high speed, restricted view and accident record indicates a need for control by the Stop sign.

A Stop sign is not a "cure-all" and is not a substitute for other traffic control devices. Many times the need for a Stop sign can be eliminated if the sight distance is increased by removing obstructions.

POLICY

Stop signs should not be used for speed control. Stop signs shall not be erected at any entrance to an intersection when such entrance is controlled by an official traffic control signal, nor at any railroad grade crossing which is controlled by automatic signals, gates, or other train-actuated control devices except as provided in CVC 21355, Stop Signs. The conflicting commands of two types of control devices are confusing.

Where two main highways intersect, the Stop sign or signs should normally be posted on the minor street to stop the lesser flow of traffic. Traffic engineering studies, however, may justify a decision to install a Stop sign or signs on the major street, as at a three-way intersection where safety considerations may justify stopping the greater flow of traffic to permit a left turning movement.

Stop or Yield signs may be installed at any highway-rail grade crossing without automatic traffic control devices with two or more trains per day traversing the crossing. Two or more trains per day is interpreted to mean an average two or more trains per day operating over the crossing each day for a period of one year prior to the installation of the Stop or Yield control sign.

Portable or part-time Stop signs shall not be used except for emergency purposes.

- **Multiway Stop Signs**

The "Multiway Stop" installation may be useful at some locations. It should ordinarily be used only where the volume of traffic on intersecting roads is approximately equal. A traffic control signal is more satisfactory for an intersection with a heavy volume of traffic.

Any of the following locations may warrant multiway Stop sign installation:

1. Where traffic signals are warranted and urgently needed, the multiway stop may be an interim measure that can be installed quickly to control traffic while arrangements are being made for the signal installations.
2. An accident problem, as indicated by five or more reported accidents within a 12 month period of a type susceptible of correction by a multiway stop installation. Such accidents include right and left-turn collisions as well as right angle collisions.
- 3 .Minimum traffic volumes;
 - (a) The total vehicular volume entering the intersection from all approaches must average at least 500 vehicles per hour for any 8 hours of an average day, and

POLICY

- (b) The combined vehicular and pedestrian volume from the minor street or highway must average at least 200 units per hour for the same 8 hours, with an average delay to minor street vehicular traffic of at least 30 seconds per vehicle during the maximum hour, but
- (c) When the 85th percentile approach speed exceeds 64 km/h, the minimum vehicular volume warrant is 70 % of the above requirements.

• YIELD SIGN

The Yield sign (R1-2) assigns right of way to traffic on certain approaches to an intersection. Vehicles controlled by a Yield sign need stop only when necessary to avoid interference with other traffic that is given the right of way.

The Yield sign shall be a downward pointing, equilateral triangle having a red border band and a white interior and the word Yield in red inside the border band.

Stop or Yield signs may be installed at any highway-rail grade crossing without automatic traffic control devices with two or more trains per day traversing the crossing. Two or more trains per day is interpreted to mean an average two or more trains per day operating over the crossing each day for a period of one year prior to the installation of the Stop or Yield control sign.

R1-2



R1-2

• Warrants for Yield Signs

The Yield sign may be warranted:

1. On the minor road at the entrance to an intersection Where it is necessary to assign the right of way to the major road, but where a stop is not necessary at all times, and where the safe approach speed on the minor road exceeds 16 km/h.
2. On the entrance ramp to an expressway where an acceleration lane is not provided.
3. Within an intersection with a divided highway, where a stop sign is present at the entrance to the first roadway and further control is necessary at the entrance to the second roadway, and where the median width between the two roadways exceeds 9 m.
4. Where there is a separate or channelized right turn lane, without an adequate acceleration lane.

POLICY

5. At any intersection where a special problem exists and where an engineering study indicates the problem to be susceptible to correction by use of the Yield sign.

- Location of Stop Sign and Yield Sign

A Stop sign should be installed at or near the point where the vehicle is to stop.

CVC21355 states: "When a required stop is to apply at the entrance to an intersection from a one-way street the roadway of which is 30 feet or more in width, Stop signs shall be erected both on the left and on the right sides of such one-way street at or near the entrance to the intersection."

A Stop sign is supplemented with a limit line (stop line) and/or the word Stop on the pavement. See Section 6-02.11, "Limit Lines" and Figure 6-33, "Typical Intersection Markings". A limit line shall be placed on paved approaches to State Highways and a Stop marking shall be placed on all but minor approaches.

Yield signs shall be located at or near the entrance to the intersection or highway where motorists are required to yield the right of way. (CVC 21356)

Where only one sign, Stop or Yield, is used, it shall be on the right-hand side of the traffic lane to which it applies. At an intersection where a wide throat exists on the signed approach, observance of the regulation may be improved by the erection of an additional sign on the left side of the approach road. Where two lanes of traffic are subject to the Stop sign, a second sign should be placed where it is visible to traffic in the inner lane. Stop pavement markings may be used in lieu of a second sign. At certain channelized intersections, the additional sign may be effectively placed on a channelizing island. In no instance shall a Stop or Yield sign be mounted on the same post.

Where two roads intersect at an acute angle, the Stop or Yield sign should be positioned at an angle, or shielded, so that the sign face is out of view to traffic to which it does not apply.

If the visibility of a Stop or Yield sign is restricted, a Stop Ahead symbol sign (W17) or a Yield Ahead symbol sign (W28) should be erected in advance of the Stop or Yield sign.

Yield signs should not normally be placed to control the major flow of traffic at an intersection. They shall not be erected on the approaches of more than one of the intersecting streets. (CVC 21356)

Yield signs should not be used on the through roadways of expressways. They may be used on an entering roadway without an adequate acceleration lane.

Yield signs should not be used in an interchange meeting applicable standards, as the signs would interfere

POLICY

with the free merging movement.

Yield signs should not be used on a minor street where the safe approach speed of the intersection is less than 16 km/h.

SPEED LIMIT SIGN

R2



R2-1

The Speed Limit _____ sign (R2) shall be used to give notice of a prima facie or maximum speed limit except as provided under Prima Facie Speed Limits in CVC 22352.

See Chapter 8, Section 8-03.4 "Speed Limit Signs and Markings" for speed limit sign placement.

The Autos With Trailers, Trucks 55 Maximum sign (R6-1) shall be placed approximately 230 m following each R2 sign installation that displays a speed greater than 55 mph.

See CVC Sections 22349 through 22413 and Traffic Manual Chapter 8, "Traffic Regulations" for additional information. See Chapter 10, "School Area Pedestrian Safety" for the R2 signs used in school zones.

R2-4



_____ ZONE AHEAD SIGN

The _____ Zone Ahead (R2-4) may be used to inform the motorist of a reduced speed zone when an advance notice is needed to comply with the speed limit posted ahead.

This sign shall always be followed by a Speed Limit _____ sign (R2) erected at the beginning of the zone where the reduced speed limit applies.

R3



END SPEED LIMIT SIGN

The End _____ Speed Limit sign (R3) shall only be used to mark the end of a speed zone. The R3 should never be used at a transition into a change in speed limits within a reduced zone.

The R3 sign is also used with the Truck plate (R4) to mark the end of truck speed zones on descending grades.

The R6 sign may be used as an alternate to the R3 sign where appropriate. See Chapter 8 - Traffic Regulations, for additional information.

POLICY

R4



TRUCK SIGN

The Truck sign (R4) shall be placed above the Speed Limit _____ sign (R2) to indicate the truck speed limit. It shall also be placed above the End Speed Limit sign (R3), to mark the end of truck speed limits.

See Chapter 8, "Traffic Regulations", for additional information.

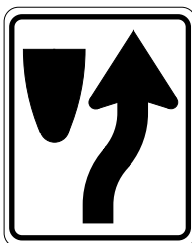
R6-1



AUTOS WITH TRAILERS, TRUCKS 55 MAXIMUM SIGN

The Autos With Trailers, Trucks 55 Maximum sign (R6-1) shall be placed in designated highway sections where maximum speed in excess of 55 mph is permitted. The R6-1 sign shall be installed approximately 230 m following each Maximum Speed _____ sign (R6) in the designated sections. See CVC Section 22406.

R7



R4-7

KEEP RIGHT SYMBOL SIGN

The Keep Right symbol sign (R7) should be used at, or in advance of, raised physical obstructions or other obstructions where traffic is required to keep to the right.

The Keep Right symbol sign may not always be necessary at intermediate ends of divisional islands and medians and should not be used with other signs that obviously mark locations where motorists know they must pass on the right.

POLICY

ONE WAY SIGN

The One Way (Right or Left) sign (R10) shall be used on one-way streets, divided highways, and ramp terminals to indicate streets or roadways upon which vehicular traffic is required to travel in one direction only.

One Way signs shall be placed on the far right and in the median on the left side of traffic entering the highway where the median is more than 9 m wide as shown in Figure 6-34, "Typical Rural Expressway Intersection Signs And Markings". For medians less than 9 m wide, that are raised or unpaved, the use of the One Way sign in the median is required on State highways and is optional on streets and highways under local jurisdiction. The appropriate height when placed in the median should be 0.45 m.

One Way signs should also be placed parallel to the one-way street at the appropriate far corner to a wrong-way turn. They should also be placed opposite the exits from alleys and other public ways.

At intersections and ramps, the R10 sign shall be placed as provided in Section 4-01.31, "Wrong Way Traffic Control" and Section 4-05, "Ramp Terminal Signing".

R10



R6-1

R10A



R6-2

RECTANGULAR ONE WAY SIGN

The rectangular One Way sign (R10A) may be used as an alternative to the R10 sign where space is limited and the R10A sign is more appropriate.

POLICY

R11



R5-1

DO NOT ENTER SIGN and WRONG WAY SIGN

The Do Not Enter sign (R11) and Wrong Way sign (R11A) shall be used at the exit end of a one-way road or ramp to inform motorists that an entrance thereto is prohibited. The Wrong Way sign (R11A) is optional on streets and highways under local jurisdiction.

The R11 and the R11A signs shall be placed in the head-on position to a wrong-way movement, and at least one set of R11 and R11A signs should be visible from each decision point on each likely wrong-way approach.

The 900 mm size R11 and R11A signs shall be used on exit ramps facing wrong-way traffic.

The 1850 mm size R11 and R11A signs shall be used at the beginning of a freeway facing possible wrong-way movements.

See Section 4-05, "Ramp Terminal Signing", and Figure 6-16, "Transition From Two-Lane to Four-Lane Divided", for details.

R11A



R5-9

R13



NO TURN ON RED SIGN

The No Turn On Red sign (R13) shall be used on the signal standard at intersections where right or left turns on a red signal are prohibited. See CVC 22101.

Erect on the far right or left on the signal standard near the appropriate signal head.

A supplemental sign may be used on the near right or left at intersections that are extremely wide or skewed.

R13A



NO RIGHT TURN ON RED SYMBOL SIGN

The No Right Turn On Red symbol sign (R13A) may be placed at an intersection to, indicate that a right turn on a red signal is prohibited. See CVC 22101.

When used, the sign should be placed where it will most easily be seen by the driver intending to turn. At least one should be placed over the roadway, or at a right-hand corner facing approaching traffic.

POLICY

NO TURNS SIGN

R15



R3-3

The No Turns sign (R15) shall be used in advance of an intersection to indicate that turns are prohibited. See CVC 22101.

On a two-way street, one sign should be used at the near right corner and one sign at the far right corner, facing approaching traffic.

On a one-way street, signs should be placed on the near left and right corners facing approaching traffic.

R16



R3-1

NO RIGHT/LEFT TURN SYMBOL SIGNS

The No Right/Left Turn symbol sign (R16/R17) shall be placed at an intersection to indicate that a right/left turn is prohibited. See CVC 22101. The word message sign (R16B/R17B) shall be used on surface streets where needed to prohibit turning movements into freeway exit ramps.

Turn prohibition signs should be placed where they will be most easily seen by drivers intending to turn.

The No Right Turn symbol sign shall be placed at the near right corner of the intersection or overhead. If signals are present, the sign may be installed adjacent to a signal face viewed by motorists in the right lane.

R3-2

On one-way roads, the No Left Turn symbol sign shall be placed at the near left corner facing traffic approaching the intersection. If signals are present, the sign may be placed adjacent to a signal face viewed by motorists in the left lane.

R17



On two-way two lane roads (one lane each direction), the No Left Turn symbol sign shall be placed on the near right corner and far left corner facing traffic approaching the intersection. If signals are present, the sign may be installed adjacent to the signal face viewed by motorists.

On two-way mult-lane roads, the No Left turn symbol sign should preferably be placed overhead over the left lanes, in the median adjacent to the left lanes, or at the far left corner facing approaching traffic where they will be most easily seen by drivers intending to turn.

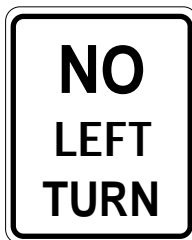
When a movement restriction applies during certain periods only, the use of turn prohibition signs calls for special treatment. The following alternatives are listed in order of preference:

1. Variable message signs or internally illuminated signs that are lighted and made legible only during the restricted hours.
2. A supplemental plate stating the applicable hours and days prohibited, mounted below the R16.

R16B



R17B



R18



R18A (Rt. or Lt.)



R19



NO RIGHT /LEFT TURN LEGEND SIGNS

The No Right/Left Turn word message signs (R16B/R17B) shall be used on surface streets instead of the symbol signs to prohibit turning movements into freeway exit ramps.

RIGHT/LEFT LANE MUST TURN RIGHT/LEFT SIGN

The Right/Left Lane Must Turn Right/Left sign (R18) shall be used when a turning movement is required, except when a clearly marked additional lane is provided for the mandatory turn. When the additional lane is provided, a pavement arrow marking shall be placed at the beginning of the additional lane (CVC 22101). Signs or markings should be repeated in advance of mandatory turn lanes when necessary to prevent entrapment and to help motorists select the appropriate lane before reaching the end of the line of waiting vehicles.

This sign shall be used when an optional turn is permitted from the lane next to the mandatory turn lane.

See Lane Use Control sign (R61) sign series for additional information.

The R18 sign should be erected on the appropriate side of the road, 45 m to 90 m in advance of the turn. The Thru Traffic Merge Left sign (W74) may be used in advance of the R18 sign.

See Chapter 6, "Markings " for pavement lines and markings.

RIGHT/LEFT LANE MUST EXIT SIGN

The Right/Left Lane Must Exit sign (R18A) shall be used to indicate a freeway lane drop.

The sign shall be placed at the beginning of the 200 mm solid white line approaching the exit ramp.

The R18A signs shall not be used at freeway to freeway connectors.

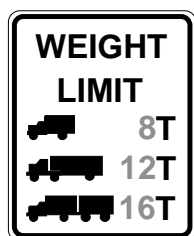
See Chapter 6, Figure 6-13, "Lane Drop Signing and Markings at Exit ramps", for details.

NO LEFT OR U TURN SIGN

The No Left Or U Turn word message sign (R19) shall be used on surface streets instead of the symbol sign where needed to prohibit turning movements into freeway exit ramps.

POLICY

R20

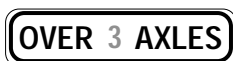


R20B

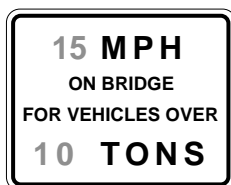


R5-2

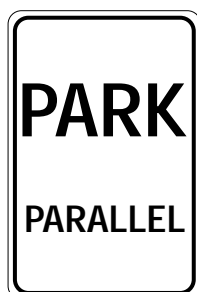
R20D



R21



R24



TRUCK RESTRICTION SIGNS

The truck restriction signs (R20 series) shall be used to specify restrictions of trucks on a bridge, structure or highway. See CVC 21101 through 21104, and 35650 through 35755.

WEIGHT LIMIT SIGN

The Weight Limit symbol signs (R20/R20A) are used to specify the maximum weights (by classes) of trucks.

NO TRUCK SYMBOL SIGN AND SUPPLEMENTAL PLATES

The No Truck symbol (R20B) is used together with a supplemental plate (R20D) to specify the maximum weight or other restrictions in effect.

The signs shall be placed at each end of the affected portion of a highway section. They shall be placed at a distance of not more than 150 m from the ends of an affected bridge or structure.

BRIDGE SPEED AND WEIGHT LIMIT SIGN

The Bridge Speed and Weight Limit sign (R21) shall be used to specify the maximum speed permitted on a bridge or structure for vehicles over a specified weight. See CVC 22402 through 22405.

The R21 shall not be erected more than 150 m in advance of the bridge or structure and, when used with the Weight Limit sign (R20), may be placed on the same post.

PARK PARALLEL SIGN

The Park Parallel sign (R24) should only be used where diagonal parking is prevalent, in violation of CVC 22502.

R25



POLICY

PARK OFF PAVEMENT SIGN

The Park Off Pavement sign (R25) may be used where it is likely that vehicles may stop on the traveled way and interfere with through traffic. It may also be used as a temporary sign in snow areas where parking is permitted.

R26



R28



NO PARKING ANY TIME SIGN

The No Parking Any Time sign (R26, R26A, R28 or R28A) may be used to inform motorists of a parking prohibition at a specific location. (See Section 8-02) These signs may be reflectorized.

Note: See Chapter 8 of the Traffic Manual for additional regulations for the No Parking and No Stopping sign series.

R26A



R28A



R26D

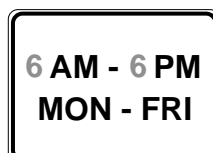
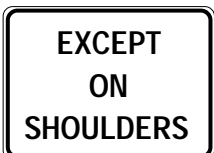


R8-3a

NO PARKING SYMBOL SIGN

The No Parking symbol sign (R26D) may be used to inform motorists of parking prohibition at a specific location.

R26E



NO PARKING SUPPLEMENTAL PLATES

The Supplemental Plate (R26E) series may be placed below the R26D sign to indicate specific parking exceptions or restrictions.

See Section 8-02 and CVC 22500 through 22522.

POLICY

R26F



NO STOPPING FIRE LANE SIGN

The No Stopping Fire Lane sign (R26F) may be used to inform motorists of a designated Fire Lane. See CVC 22500.1.

R26(S)



NO STOPPING ANYTIME SIGNS

The No Stopping Any Time sign (R26(S) or R26A(S)) shall be used to inform motorists of a No Stopping Zone at a specific location. See CVC 22500 through 22519.

These signs may be reflectorized.

R26A(S)



R28(S)



NO STOPPING ANYTIME w/ARROW SIGN

The No Stopping Any Time w/arrow signs R28(S) and R28A(S) may be used to inform motorists of no stopping zones. Use only where the beginning and ending points of the prohibition not otherwise indicated.

POLICY

R28A(S)



NO STOPPING ANY TIME w/ARROW SIGN

The No Stopping Any Time w/arrow signs R28(S) and R28A(S) may be used to inform motorists of no stopping zones. Use only where the beginning and ending points of the prohibition are not otherwise indicated.

R28B



NO PARKING VEHICLES OVER 6 FEET HIGH w/ARROW SIGN

The No Parking Vehicles Over 6 Feet High W/arrow sign (R28B) shall be used to inform motorists of a parking prohibition which applies only to vehicles greater than 6 feet in height. The R28B sign may be installed within 100 feet of an intersection to improve the visibility of the motorists in accordance with CVC 22507.

R29



NO PARKING/STOPPING w/SPECIFIC HOURS SIGN

The No Stopping with specific hours and No Parking with specific hours sign (R29) shall be used to inform motorists of a stopping and parking prohibition during certain hours at a specific location.

See Chapter 8, Traffic Regulations and CVC 22500 through 22522.

R30



NO PARKING w/SPECIFIC HOURS SIGN

The No Parking with specific hours signs (R30) and (R30A) shall be used to inform motorists of a parking restriction during certain hours at a specific location.

POLICY

R30A



NO PARKING w/SPECIFIC HOURS SIGN

The No Parking with specific hours signs (R30) and (R30A) shall be used to inform motorists of a parking restriction during certain hours at a specific location.

R31



NO PARKING w/SPECIFIC HOURS and PARKING w/SPECIFIC HOURS SIGN

The No Parking/Stopping with specific hours and Parking with specific hours signs (R31 and R31S) may be used to inform motorists of a stopping/parking prohibition during certain hours and a parking time limit during other hours at a specific location. The R31(S) sign is used for stopping prohibitions, generally during peak traffic hours.

R31(S)



R32

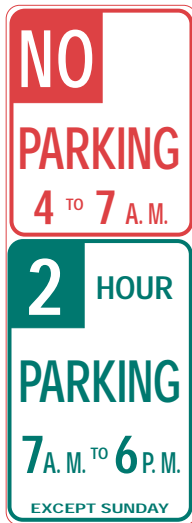


R32A



___ HOUR/MINUTE PARKING w/SPECIFIC HOURS SIGN

The _____ Hour/Minute Parking signs (R32, R32A and R32B) may be used to inform motorists of a parking time limit with specific hours and/or minutes during certain hours at a specific location (See Section 8-02).

R32B**R34***R3-4***R34-2****R34A****R35****POLICY****NO PARKING/SPECIFIC HOURS w/HOUR LIMIT
PARKING DURING SPECIFIC HOURS SIGN**

The _____ Hour/Minute Parking signs (R32, R32A and R32B) may be used to inform motorists of a parking time limit during certain hours at a specific location (See Section 8-02).

**NO U TURN SYMBOL SIGN and NO LEFT AND U
TURNS SYMBOL SIGN**

The No U Turn symbol sign (R34) shall be used where U turns are prohibited except when a lane-use control sign (R73) is used at signalized intersections with separate left turn phases.

The No Left Turn or U Turn symbol sign (R 34-2) shall be used where both left turns and U turns are prohibited.

The appropriate sign should be placed as follows:

- A. On undivided roads without traffic signals, place on the near right and far left corners of the intersection.
- B. On undivided roads with traffic signals, place on the far right and far left corners of the intersection, or on the signal mast arm.
- C. On divided roads at both signalized and unsignalized intersections, place in the median on the near and far side of the intersection, and on the signal mast arm at signalized intersections.

The No U Turn (R34A) and No Left Or U Turn (R19) word message signs should be used on surface streets instead of the symbol sign where needed to prohibit turning movements into freeway exit ramps.

NO U TURN SIGN

The No U Turn word message sign (R34A) should be used on surface streets instead of the symbol sign where needed to prevent turning movements into freeway exit ramps.

TRUCK ROUTE SIGN

The Truck Route sign (R35) may be used to mark the designated truck route when commercial vehicles have been prohibited by local authorities on certain streets and highways. This sign is normally placed by, and at the expense of, the authority establishing the restriction.

See CVC 21101 through 21104 and 35701 through 35715 and Section 8-04, "Other Traffic Regulations".

POLICY

COMMERCIAL VEHICLES OVER 5 TONS
PROHIBITED SIGN

R36



The Commercial Vehicles Over _____ Tons Prohibited sign (R36) may be used to inform drivers that vehicles over _____ tons are prohibited from certain streets and highways. See CVC 35701 AND 35712.

R37

TOW-AWAY/NO STOPPING/NO PARKING w/
SPECIFIC HOURS SIGN

The Tow-Away/No Stopping with specific hours and No Parking with specific hours sign (R37) may be used to inform motorists of No Stopping and Parking prohibitions and Tow-Away zone at a specific location.

R38

TOW-AWAY/NO STOPPING/PARKING SPECIFIC
HOURS and HOUR/MINUTE PARKING SPECIFIC
HOURS SIGN

R38(S)



The Tow-Away/No Parking/Stopping with specific hours parking permitted sign (R38) may be used to inform motorists of a parking restriction and tow-away zone at a specific location. The R38(S) sign is used for stopping prohibitions, generally during peak hours.

POLICY

TWO WAY TRAFFIC AHEAD SIGN

R40



The Two Way Traffic Ahead sign (R40) shall be used to inform motorists that they are leaving a one-way street and entering a two-way street.

A sign should be erected on both sides of the one-way street approximately 60 m in advance of the intersection where the two-way traffic begins.

R41



RIGHT TURN ONLY SIGN

The Right Turn Only sign (R41) shall be used where a right turn at an intersection is mandatory.

On one-way roads, dual installations shall be made. See CVC 22101.

R42



LEFT TURN ONLY SIGN

The Left Turn Only sign (R42) shall be used where a left turn at an intersection is mandatory.

On one-way roads, dual installations shall be made. See CVC 22101.

R43



R5-10c

PEDESTRIANS PROHIBITED SIGN

The Pedestrians Prohibited sign (R43) shall be used at all freeway exit ramps to inform the public that pedestrians are prohibited. See CVC 21960.

The sign should be placed on the left facing pedestrian traffic which might enter a freeway exit ramp. Dual installations may be used where pedestrian problems exist.

The sign should be placed 23 m to 30 m up the ramp to avoid conflict with the ramp terminal signs. See Section 4-05, "Ramp Terminal Signing", for additional details.

The sign may also be used at underpasses or elsewhere where safe pedestrian facilities are not provided.

For pedestrian and other prohibitions at entrance ramps, see the R44 sign.

The R96 No Pedestrian symbol sign may be used as an alternative to the R43 sign.

POLICY

R44



R5-10a

PEDESTRIANS BICYCLES MOTOR-DRIVEN CYCLES PROHIBITED SIGN

The Pedestrians, Bicycles, Motor-Driven Cycles Prohibited sign (R44) shall be used as follows:

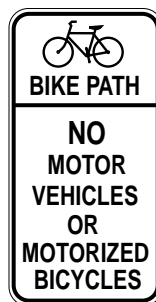
The 1200 mm x 1400 mm size sign shall be used on a freeway at or near the beginning of the section of freeway to which the prohibition applies and as may be required at problem locations.

The 700 mm x 900 mm should be used on the right side of freeway entrance ramps approximately 23 m to 30 m up from the intersection street to avoid conflicts with the ramp entrance signs. See Section 4-05, "Ramp Terminal Signing".

The sign may be modified by deleting the word Bicycles at locations where bicycles are permitted on freeway shoulders.

Restrictions on use of freeway must be by order of the District Director. Prior to placement of the R44 sign on State highways, an order signed by the District Director should be on file. Freeway areas that are not restricted require notification of the Program Manager, Headquarters Traffic Operations Program. See CVC 21960 and Traffic Manual 8-04.5.

R44A



BIKE PATH w/RESTRICTIONS SIGN

The Bike Path sign (R44A) may be used to identify a bike path and prohibit motor vehicles and motorized bicycles from entering the bike path. If motorized bicycles are permitted, the "Motorized Bicycles" portion may be replaced with "Motorized Bicycles Permitted".

R44B



BICYCLES MOTOR-DRIVEN CYCLES MUST EXIT SIGN

The Bicycles Motor-Driven Cycles Must Exit sign (R44B) shall be used on freeways in advance of an exit ramp where bicycles and motor-driven cycles must exit.

The Pedestrians, Bicycles, Motor-Driven cycles Prohibited sign (R44) should be placed beyond the exit ramp gore as a follow-up message to the R44B sign.

POLICY

BICYCLES MUST EXIT SIGN

R44C



The Bicycles Must Exit sign (R44C) shall be used on freeways where bicycles are required to exit.

At the end of freeway sections where both bicycles and pedestrians have been allowed, and on the continuing freeway where such traffic is prohibited, the Pedestrians, Bicycles, Motor-Driven Cycles Prohibited sign (R44) should be placed beyond the exit ramp gore.

EMERGENCY PARKING ONLY SIGN

R45

*R8-4*

The Emergency Parking Only sign (R45) shall be used at the beginning of freeways below the Begin Freeway sign (R57). See CVC 22520.

The R45 sign may also be placed along roadways at random locations as needed, where scenic and other attractions create a tendency for motorists to stop temporarily.

R48

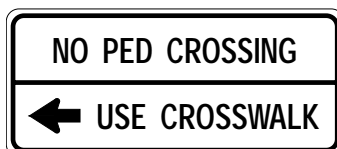


SPEED CHECKED BY RADAR SIGN

The Speed Checked By Radar sign (R48) may be used to inform the motorist that particular speed limits are enforced by means of radar. When installed with an R2 (Speed Limit) sign, the R48-1 should be used.

The sign is not normally used on State highways however, it may be installed by local authorities, through an encroachment permit, where speed enforcement is under their jurisdiction.

NO PED CROSSING-USE CROSSWALK SIGN



The No Ped Crossing-Use Crosswalk sign (R49) may be used to instruct pedestrians that they should not cross a roadway at a certain location and to direct pedestrians to the nearest provided crossing. See symbol sign R96 and CVC 21106.

The sign is ordinarily installed by local authorities on State highways under encroachment permit.

The sign may be placed on a pole or barrier or suspended on a chain between two poles at the point where pedestrian crossings are prohibited.

POLICY

R51



TURNOUT SIGN

The Turnout sign (R51) shall be placed at the entrance to a turnout. See CVC 21656.

R52



SLOWER TRAFFIC USE TURNOUTS SIGN

The Slower Traffic Use Turnouts sign (R52) shall be used in advance of the first turnout on a route and at other locations as needed. It is not intended to be used in advance of each individual turnout. See CVC 21656.

R53



TRUCK LANE 500 FEET SIGN

The Truck Lane ____ Feet sign (R53) shall be used in advance of a truck lane.

R53A



END TRUCK LANE SIGN

The End Truck Lane sign (R53A) shall be placed at the end of a truck lane.

POLICY

TRUCKS RIGHT LANE ONLY SIGN

R53B



The Trucks Right Lane Only sign (R53B) shall be used when a climbing lane is provided and it is necessary to prohibit trucks from passing slower moving vehicles. A 200 mm solid white line shall be used in place of the standard lane-line. Signs shall be placed at the beginning of the restriction and at approximately 400 m intervals. When the restriction is necessary during certain hours, the R82A plate shall be placed below the R53B sign.

R53C



TRUCKS USE RIGHT LANE SIGN

The Trucks Use Right Lane sign (R53C) may be placed to advise trucks that they shall use the right lane except to pass slow moving vehicles as provided in CVC 21654.

R55



YIELD TO UPHILL TRAFFIC SIGN

The Yield To Uphill Traffic sign (R55) shall be used facing downhill traffic where a climbing lane has been provided and where a one-direction no passing marking has been placed to allow downhill traffic to pass.

See Section 6-02.2.(2) "Passing and Truck Lanes" for further details.

POLICY

R56



R4-3

SLOWER TRAFFIC KEEP RIGHT SIGN

The Slower Traffic Keep Right sign (R56) may be used on multilane roadways to reduce unnecessary weaving. It should be erected just beyond the beginning of a multilane pavement, and at selected locations on the median strip on a divided highway where there is a tendency on the part of the motorist to drive in the left hand lane (or lanes) below the normal speed of traffic. It should not be used on the approach to an interchange or through an interchange area.

The R56 sign shall be used at the beginning of passing lanes. See Figure 6-18, "Signing and Marking Passing Lanes" and CVC 21654.

R57



BEGIN FREEWAY SIGN

The Begin Freeway sign (R57) shall be used to mark the beginning of a section of freeway on which parking is prohibited. See CVC 22520.

Position the R57 sign above the Emergency Parking Only Sign (R45).

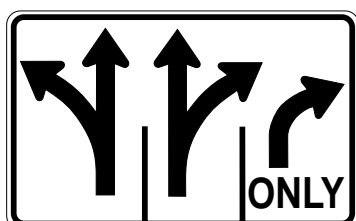
R58



END FREEWAY SIGN

The End Freeway sign (R58) shall be used to mark the end of a freeway.

R61 SERIES



LANE-USE CONTROL SIGN SIGNS

The Lane-Use Control signs (R61 series) should be used to indicate the movements for specific lanes at an intersection. The arrows should be selected according to lane requirements. The signs R61-1.1 through R61-37 are normally ground mounted. For signalized intersections see the R73 signs.

See the "Traffic Sign Specifications for variations in the R61 sign series (Suffix coding R61-1, R61-2.1, etc.).

POLICY

R62A



R62B



PUSH BUTTON FOR ____ SIGNS

The Push Button For _____ signs (R62 series) shall be mounted immediately above or incorporated in the pedestrian push button unit.

R62C



R62D



R63



R4-1

DO NOT PASS SIGN

The Do Not Pass sign (R63) when used, shall be positioned at the actual point where the passing restriction begins, and at intervals within, a section of highway through which conditions indicate that passing should be restricted.

Typical examples of where the R63 could be applied are as shown in Figures 6-15, "Typical Lane Reduction Transition", 6-18, "Signing and Marking Passing Lanes", 6-16, "Transition from Two-Lane To Four-Lane Divided", and 6-43, "Treatment For Divided Highway Illusion".

The R63 may be used in conjunction with construction zone signs.

POLICY

DO NOT STOP ON TRACKS SIGN

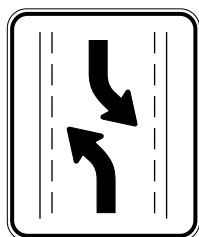
R65



The Do Not Stop On Tracks sign (R65) should be used whenever an engineering study determines that the potential for motorists stopping on the tracks is high.

The sign should normally be placed on the far right side of the grade crossing. On multilane roads and one-way roadways, a second sign should be placed on the far left side of the grade crossing.

R67



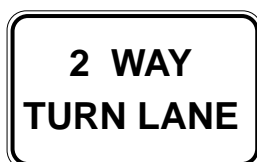
TWO-WAY LEFT TURN LANE SYMBOL SIGN

The Two-Way Left Turn Lane symbol sign (R67) may be installed in protected locations to indicate that a lane near the center of the highway is set aside for use by vehicles making left turns in both directions from or into the highway.

The Two-Way Turn Lane educational plate (R67A) when used, shall be positioned below the R67 sign. See Section 4-01.13, "Symbols and Educational Plates".

See Figures 6-8, "Two Way Left-Turn Lanes" and 6-19, "Typical Two-Way Left-Turn Lanes" for pavement lines and markings.

R67A



R70



TRUCKS OK w/ARROW SIGN

The Trucks OK sign (R70) may be used to allow trucks to legally use other than the right lane or lanes, such as in advance of freeway branch connections, lane drop, etc. See CVC 21655.

Erect overhead with the arrow directly over the appropriate lane.

POLICY

R72



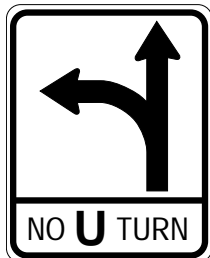
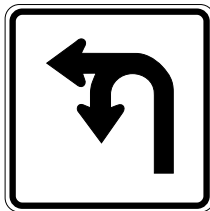
WHEN CHILDREN ARE PRESENT SIGN

The When Children Are Present sign (R72) is used in conjunction with the a W65 School and R2 Speed Limit ____ sign to inform the motorist of the presence of a school zone.

See Chapter 10, "School Area Pedestrian Safety", for typical examples.

R73 SERIES

R3--5,6&8



LANE-USE CONTROL SIGNS

The Lane-Use Control sign (R73 series) may be used to indicate the types of movements permitted at intersections. The signs may also be used in lieu of the R34 sign to indicate that U-turns are prohibited, when they are prohibited, at signalized intersections with separate left turn phases. See the R34 sign policy.

The R73-1 through R73-4 signs are standard for overhead mounting either on an overhead mast arm or on lightweight structures. The R73-5 and R73-6 signs are standard for ground mounted installations.

See the "Traffic Sign Specifications" for variations of the R73 series.

R73-7

R10-12



LEFT TURN YIELD ON GREEN BALL SYMBOL SIGN

The Left Turn Yield On Green (Ball) sign (R73-7) may be used at signalized intersections for protected/permissive left turn phasing. The sign may be mounted either on a signal standard or overhead on a signal mast arm.

R74



NOTE: For the chain control sign series, see the Caltrans Maintenance Manual, Chapters VII through XX for installation details and additional information.

CHAIN INSTALLATION ONLY SIGN

The Chain Installation Only Sign (R74) may be erected where parked vehicles interfere with normal winter operations. This sign should be turned or covered at the end of the chain requirement season.

POLICY

R75



CHAINS REQUIRED ____ MILE AHEAD SIGN

The Chains Required ____ Mile Ahead sign (R75) shall be used to give advance notice that chains are required ahead.

R76



CHAINS REQUIRED SIGN

The Chains Required sign (R76) shall be used at the beginning of chain control areas and intermittently as needed. The R76 sign is installed in combination with the R2, R79 and R80 signs.

R76-1



ON SINGLE AXLE DRIVE VEHICLE WITH TRAILER SIGN

The On Single Axle Drive Vehicle With Trailer sign (R76-1) may be used when road conditions are such that only single drive vehicles with trailers need chains.

When used, the sign shall be mounted below the Chains Required sign (R76).

R77



NO EXCEPTIONS SIGN

The No Exceptions sign (R77) shall be used with the R2 and R76 signs when chains are required with no exceptions.

R78



END CHAIN CONTROL SIGN

The End Chain Control sign (R78) shall be used to advise the motorist that the chain control area has ended.

POLICY

R79



AUTOS AND PICKUPS WITH SNOW TIRES OK - ----- CARRY CHAINS SIGN

The Autos And Pickups Snow Tires OK ----- Carry Chains sign (79) shall be used with the R2 and R76 signs when chains are required but autos and pickups with snow tires are excepted from using chains.

R80-1



4-W DRIVE WITH SNOW TIRES OK ----- CARRY CHAINS

The 4-W Drive With Snow Tires OK - Carry Chains sign (R80-1) shall be used with the R2 and R76 signs when chains are required. Vehicles with four wheel drive and snow tires on all four wheels are exempt from using chains.

R81



BIKE LANE w/SYMBOL SIGN

The Bike Lane sign (R81) shall be placed at the beginning of each designated Bike Lane and along each Bike Lane at every arterial street, at all major changes in direction, and at maximum 800 m intervals.

The R81 sign shall be used to regulate bicycle and motor vehicle traffic, in accordance with CVC Sections 21207, 21207.5, 21208, 21209 and 21717.

See Chapter 12, "Bikeway Signing and Markings".

R81A



BEGIN SIGN

The Begin sign (R81A) may be used below the R81 sign to mark the beginning of a bike lane.

R81B



END SIGN

The End sign (R81B) may be used below the R81 sign to mark the end of a bike lane.

Refer to the publication

**"High Occupancy Vehicle (HOV) Guidelines for Planning,
Design, and Operations"**

published by the Division of Traffic Operations

for the current policies and procedures regarding

HOV lane signing and marking.

Refer to the publication

"Ramp Meter Design Guidelines"

published by the Division of Traffic Operations

for the current policies and procedures

regarding metered ramp geometric design, signing,

pavement markings, signals and lighting.

POLICY

R95



R5-6

NO BICYCLES SYMBOL SIGN

The No Bicycles symbol sign (R95) may be placed at all entrances to the restricted roadway. The No Bike sign should be placed on the right-hand side of the roadway, approximately 7.5 m from the intersection.

R96



R9-3a

NO PEDESTRIANS SYMBOL SIGN

The No Pedestrians symbol sign (R96) shall be used to prohibit pedestrians except where the R49 sign is used.

R96A

**NO PEDESTRIAN CROSSING EDUCATIONAL PLATE**

The No Ped Xing educational plate (R96A) may be used below the R96 sign when pedestrians are prohibited from crossing a street or highway.

R96B

**USE CROSSWALK SIGN**

The Use Crosswalk sign (R96B) may be used to designate the direction of the pedestrian crossing.

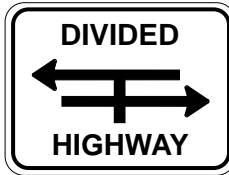
R96C

**PEDESTRIANS PROHIBITED SIGN**

The Pedestrian Prohibited educational plate (R96C) may be used below the No Pedestrian symbol sign (R96) when pedestrians are prohibited.

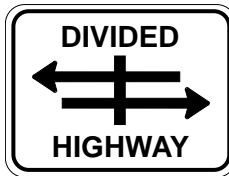
POLICY

R98

R6-3a**DIVIDED HIGHWAY SIGN**

The Divided Highway signs (R98 and R98A) may be used on the approach leg of a roadway that intersects with a divided highway. The sign may be placed below the Stop sign (R1) or mounted separately. The R98 sign is used at "T" intersections. The R98A sign is used at four-legged intersections.

R98A

R6-3

R99

**PHYSICALLY CHALLENGED PARKING w/ SYMBOL SIGN**

The Physically Challenged Parking Only symbol sign (R99) may be used in on-street and off-street parking facilities to designate stalls or spaces for vehicles with a special placard or license plate designating handicapped.

The R99 sign, blue pavement markings and handicapped symbol, are required for enforcement of these parking areas. See CVC 22511.7 and 22511.8.

R100

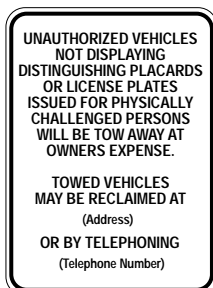
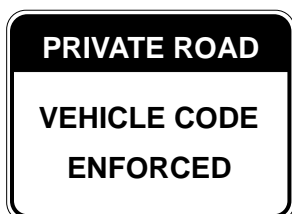
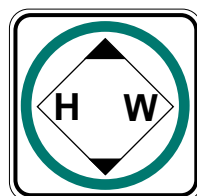
**SPECIAL PLACARD OR LICENSE PLATE REQUIRED**

The Special Placard or License Plate Required sign (R100) may be used with the R99 sign.

R100A

**TOW-AWAY --- SPECIAL PLACARD OR LICENSE PLATE REQUIRED SIGN**

The Tow-Away --- Special Placard or License Plate Required sign (R100A) may be used with the R99 sign to inform parking motorists that their vehicle will be towed away if they do not have the special placard or license plate. See the R100B, Physically Challenged Tow-Away sign.

R100B**R101****R102****R102A****R103****POLICY****PHYSICALLY CHALLENGED TOW-AWAY SIGN**

The Physically Challenged Tow-Away sign (R100B) shall be placed immediately adjacent to, and visible from, the stall or space, or at each entrance to an off-street parking facility to notify motorists that their vehicle will be towed away if they park in designated stalls or spaces without a placard or special license plate.

PRIVATE ROAD/PROPERTY VEHICLE CODE ENFORCED SIGN

The Private road or Private Property Vehicle Code Enforced sign (R101) shall be used at the entrance to a privately owned and maintained road when enforcement of vehicle provisions apply, as provided in CVC 21107.7. The Private Property alternate message sign shall be used at each entrance to a privately owned and maintained off-street parking facility when enforcement of vehicle code provisions apply, as provided in CVC 21107.8.

HAZARDOUS WASTE PROHIBITED SYMBOL SIGN and EDUCATIONAL PLATE

The Hazardous Waste Prohibited symbol sign (R102) shall be used to identify those routes, either State or local, upon which the transportation of hazardous waste has been prohibited, as provided in CVC 31303 and 31304.

On those highways where hazardous waste is permitted, R102 symbol signs may be placed in advance of their intersection or interchange with the prohibited route. Signs should be placed on the prohibited route for both directions of travel after entry from the above intersection or interchange.

The Hazardous Waste Prohibited plate (R102A) shall be positioned below the R102 symbol sign and should be of equal width.

HAZARDOUS WASTE PERMITTED SYMBOL SIGN and EDUCATIONAL PLATE

The Hazardous Waste permitted symbol sign (R103) may be used to guide drivers around routes where the transportation of hazardous waste is permitted.

The Hazardous Waste Permitted plate (R103A) shall be positioned below the R103 symbol sign and should be of equal width.

R103A**HAZARDOUS WASTE PERMITTED SIGN**

The Hazardous Waste Permitted plate (R103A) shall be positioned below the R103 symbol sign and should be of equal width.

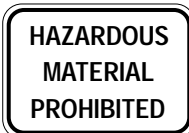
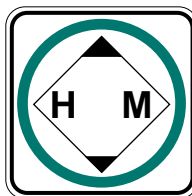
R104**HAZARDOUS MATERIAL PROHIBITED SYMBOL SIGN and EDUCATIONAL PLATE**

The Hazardous Material Prohibited symbol sign (R104) may be used to identify those routes, either State or local, upon which the transportation of Hazardous Material has been prohibited.

On those highways where Hazardous Material is prohibited, R105 symbol signs may be placed in advance of their intersection or interchange with the prohibited route. Signs should be placed on the prohibited route for both directions of travel after entry from the above intersection or interchange.

The R104 symbol sign shall be used to identify those routes upon which the transportation of Hazardous Materials has been prohibited, as provided in CVC 31303 and 31304.

The Hazardous Material Prohibited plate (R104A) shall be positioned below the R104 symbol sign and should be of equal width.

R104A**R105****HAZARDOUS MATERIAL PERMITTED SYMBOL SIGN and EDUCATIONAL PLATE**

The Hazardous Material Permitted symbol sign (R105) may be used to guide drivers around routes where the transportation of Hazardous Material is prohibited.

The Hazardous Material Permitted plate (R105A) shall be positioned below the R105 symbol sign and be of equal width.

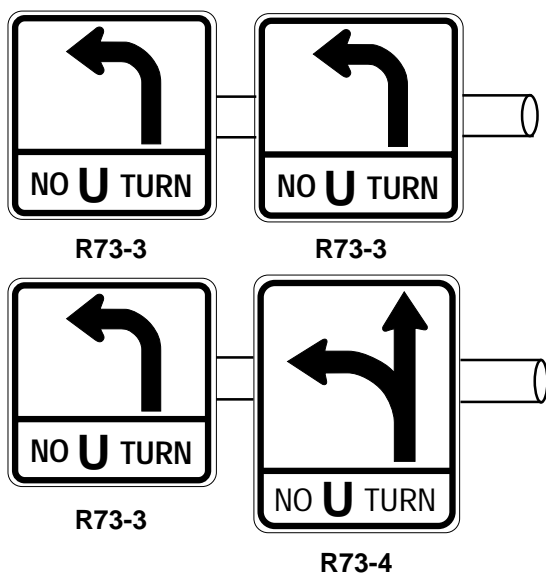
R105A

Figure 4-4

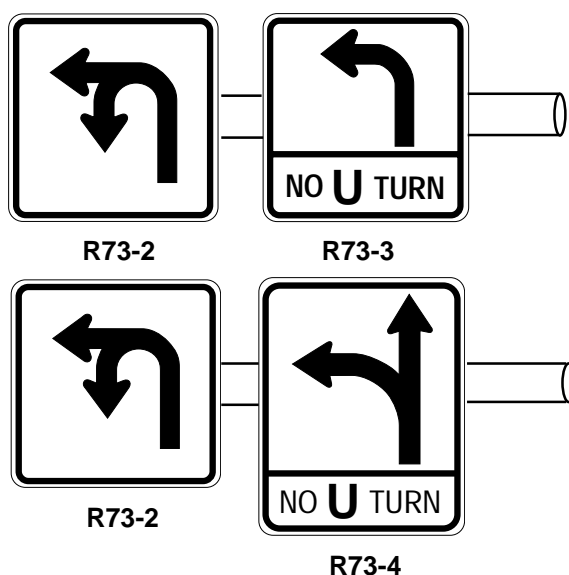
**U - TURN SIGNS FOR
Signalized Intersections With Separate Turn Phase**

TWO LEFT-TURN LANES WITH OVERHEAD U-TURN SIGNS

U-TURNS PROHIBITED

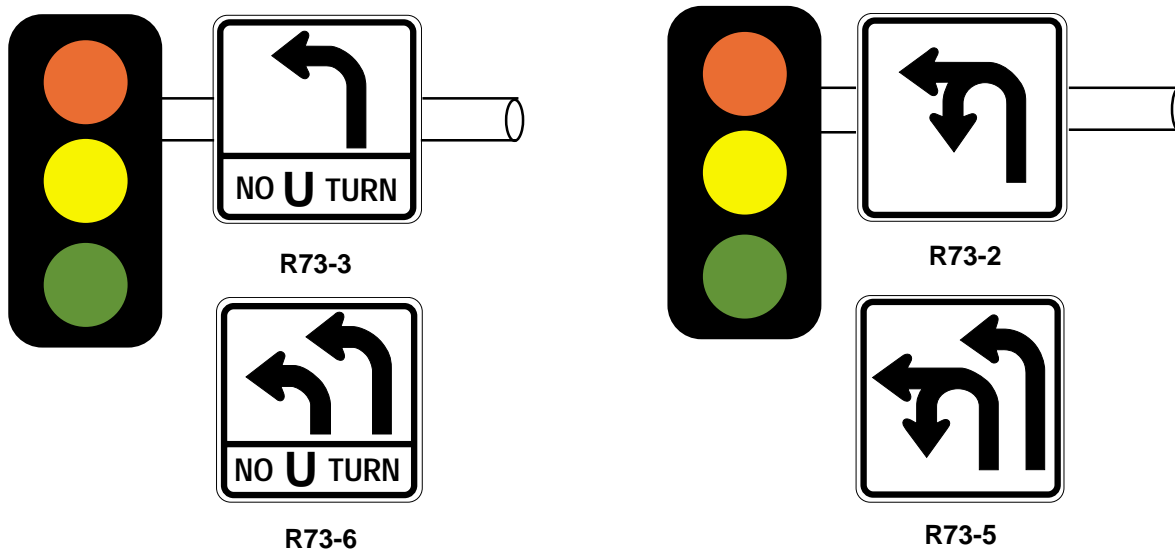


U-TURNS PERMITTED



See Standard Plans for Mounting Details

SIGNAL MASTARM MOUNTED U-TURN SIGNS



See Standard Plans for Mounting Details

This Page

Left

Blank

Intentionally

Guide Signs 4-04

4-04.1 Application of Guide Signs

Guide signs are essential to guide motorists along streets and highways, to inform them of intersecting routes, to direct them to cities, towns, villages, or other important destinations, to identify nearby rivers and streams, parks, forests, and historical sites, and generally to give such information to help them along their way in the most simple, direct manner possible.

Signs which are requested primarily for recognition or advertising purposes shall not be installed. Private advertising is prohibited on the State highway right-of-way by Section 5403 (a) of the Business and Professions Code. No sign nor its support shall bear any commercial advertising material except Specific Service signs authorized by Statute. No flashing lights or distracting legend shall be placed on guide signs.

4-04.2 Design of Guide Signs

Guide signs are normally rectangular in shape with the longer dimension horizontal. Signs for destinations shall have a white reflectorized legend and border on a green opaque background. Service signs, such as GAS, FOOD, and LODGING shall have a blue background. Recreational signs shall have a brown background.

Guide signs must be legible to approaching drivers. Where speeds or volumes are high, larger signs are required. Where a vehicle is moving slowly or must stop, small signs may be used. Upper case and lower case letters are normally used for street names and destinations. Capital letters shall be used for other information, such as cardinal directions, distances, lane use, etc.. The minimum letter height for the principle legend shall be 100 mm. Tables at the end of this section give letter widths, spacing, arrow and route shield layouts, etc., for sign design.

Regardless of the letter size, the legend on a guide sign must be kept to a minimum to be legible at a glance. Guide signs should be limited to three lines of principle legend. Where two or more signs are included in the same overhead display, extra effort should be made to further reduce and simplify the amount of legend.

For most guide signs, the legend is so variable that there can be no standardized size. The sign size must be fixed primarily in terms of length of the message and size of the lettering and spacing necessary for legibility. However, for signs with standardized designs, such as route markers, it is practicable to fix standard sizes. Refer to the current edition of the Caltrans approved "Traffic Sign Specifications" publication for standard sizes.

Under some circumstances, the available space may limit sign width. Where clearances are limited, and standard sign design cannot be used, a reduced letter height, interline and edge spacing may be used. When a reduction in the standard size is necessary, the design should be as nearly comparable to standards as possible.

Requirements for retroreflectorization or illumination are stated under the specific headings for individual guide signs or groups of signs.

4-04.3 Placement of Signs

Guide signs should be placed so that they can be read in advance of a point where a driver decision is required. If approach speeds are high, the installation of an additional advance guide sign should be considered.

General details of location, heights, lateral clearances, and erection of guide signs are provided in Section 4-01.

A minimum spacing of 60 m between guide signs should be maintained on conventional highways.

A minimum spacing of 240 m between guide signs should be maintained on freeways and expressways.

When clear roadside recovery areas are provided, guide signs should be placed as far from the traveled way as possible, up to a maximum of 9 m. They should be placed in protected locations where possible.

4-04.4 Placement of Street Name Signs

1. Intersection Street Name Signs. The Vehicle Code requires that street name signs be placed at all signalized intersection and

be visible to traffic from all directions. This is generally the responsibility of the local jurisdiction.

In retail business districts, two street name signs should be visible from each approach.

The signs shall be placed parallel to the street they name.

(a) **Post Mounted Signs.** Letters shall be open capitals not less than 100 mm in height or 100 mm upper case and 75 mm lower case letters. The designation of "St.", "Ave.", "Blvd.", etc., is to be in letters not less than 50 mm in height. All signs shall be installed horizontally and the color combination shall be visible at 45 m in the daytime under clear weather conditions.

(b) **Mast Arm Mounted Signs.** In designing street name signs, the standard sign should:

- Have a white legend on a green background
- Be single sheet when reflectorized
- Have a minimum letter size of 150 mm upper case and 115 mm lower case
- Be double faced
- Be hinge mounted
- Have a maximum sign panel length of 2.4 m

Variance from these design standards may be desirable for compatibility with contiguous city and county installations. In addition, a symbol or letter designation may be included on the sign face to identify the governmental jurisdiction. If used, the length of the designation shall not exceed the height of the sign and should be positioned to the left of the street name.

The standard installation shall be reflectorized signs. However, at locations

where a study indicates that the visibility of a reflectorized sign may be inadequate due to competition from ambient lighting, internally illuminated signs may be warranted. The design features and mounting position of internally illuminated street name signs are shown in the Standard Plans. Reflectorized signs and internally illuminated signs should be mounted in the same position.

When internally illuminated signs are added to an existing pole, the added weight and wind load could require stronger poles. The weight and wind load on new installations is provided for in the Standard Plans. In either case, the plans should be reviewed by the Office of Structures.

2. **Advance Street Name Signs.** In rural areas, advance road or street name signs shall be placed for signalized or channelized intersections and at all intersections on multilane highways. They should also be used in advance of all except minor intersections on major two-lane highways.

On urban multilane highways, advance mid-block street name signs should be used whenever space on the right or in the median is available. If structurally adequate luminaire poles are available, the street name signs may be mounted on them at a height of approximately 4.6 m. Refer to the current Caltrans "Standard Plans".

Advance street name signs may be erected separately or below an intersection warning sign. When combined with a yellow diamond sign, the color shall be a black message on a yellow background.

4-04.5 Establishing Business Routes

State business routes and Interstate Loops are established by the District Directors.

U. S. business routes require AASHTO approval. Applications may be made by memorandum and shall include a written request

for the route from those local agencies within and whose boundaries the route traverses. A sketch, preferably on letter size stationary, showing the highway relocation and the business route or loop, should be included. Submission for AASHTO approval will be made by Headquarters. Continuous business route signing shall be provided through the bypassed area and back to the highway. If a business route is approved prior to relinquishment, G55 Business plates or G31 Interstate Loop shields will be installed by Caltrans. After relinquishment, they will be installed by the local agency involved.

4-04.6 Bypassed Communities

Section 100.9 of the Streets and Highways Code provides that appropriate directional signs shall be installed directing to bypassed cities and business districts. This law requires that all signs, except route shields, be left in place on the old highway, regardless of its status as a business route. When relinquishing any bypassed highway, the city or county concerned should be advised regarding continued maintenance of such signs by the local agencies. For procedure concerning legal requirements see Section 4-01.33.

4-04.7 Signing to Freeways

All guide signs to a particular direction on a freeway should include the proper route shield, appropriate cardinal direction plate as well as a destination city or town in that direction. Destination cities by themselves provide little or no information to the motorist unfamiliar with the area.

1. **Trail Blazers.** CVC 21350 provides that the State may, with the consent of the local authorities, place and maintain along city streets and county roads, appropriate signs directing traffic to State highways.

Cooperation with local authorities should be sought in placing trail blazers. Permission must be obtained from the appropriate local agency for all signs placed

outside the State highway right-of-way. For all signs placed outside of the State right of way see 4-01.32.

Signs directing to State freeways may be placed on major streets, at motel strips, business districts, and other major traffic generators. Cross-streets which intersect with the freeway should be trail-blazed. Such signing should ordinarily be limited to the traffic corridor served by the freeways. However, in rare cases, it will be appropriate to trail-blaze from service areas located several miles from the freeway. Consideration should also be given to signing back from major facilities which are signed to, from the freeway. See Figure 4-6.

The format of such signs may vary. Generally, the route shield, appropriate cardinal direction plate (G47 thru G50) and a TO plate (G59) and appropriate directional arrow plate will be adequate. In metropolitan areas, the freeway name may be used only if it is well known, in common use, and its deletion would be confusing to motorists. The format must include the appropriate route shield.

2. Lane Assignment

- a. **Multilane Cross-Streets.** On multilane cross-streets, signs shall be provided to properly position traffic destined for freeway entrances. The proper lane for each movement shall be indicated far enough in advance of the point where the turn must be made to allow the motorist time to maneuver into the proper lane, particularly in areas where overcrossings obscure the visibility of the freeway entrance.

On multilane cross-streets, the G77A Freeway Interchange sign should be placed in advance of the first freeway entrance. A G21 Lane Destination sign should be placed preceding the G77A sign to indicate the proper lane for the desired movement. The G20 Lane

Destination sign may be used where appropriate. Signs may be either overhead on a lightweight structure, or ground-mounted. A stacked format may be used for the G21 sign if space is limited. If the freeway goes over the cross street, signs may be mounted overhead on the structure with a down arrow indicating the proper lane for the far side movement.

- b. ***Two-Lane Cross-Streets.*** On two-lane cross-streets, a G77 sign should be placed in advance of the first ramp entrance. See Figure 4-10 through 4-14 for typical freeway signing. See Section 4-04.21 for additional information on freeway-to-freeway interchanges.

3. ***Freeway Entrances.*** The proper use of totem pole assemblies and other guide signs for freeway entrances is covered in Section 4-05.

4-04.8 Placement of Route Shields

Route shields shall be posted on all State highways. Exceptions must be approved by the Program Manager, Traffic Operations Program. Headquarters traffic shall be informed of all revisions, additions or deletions in the sign route posting so that map makers can be informed.

In metropolitan areas, route shields should be placed facing traffic on all arterial streets, at all signalized intersections, and on any street carrying non-local traffic, such as streets serving motel areas. In cities, shields placed on the State highway in the "draw position" (on the right beyond the intersection) are of little value to traffic on intersecting streets, as they are frequently obscured by buildings or other obstructions. Ordinarily, a single route shield placed on the far side of the intersection facing cross street traffic, with a G35 two-headed arrow, will be adequate.

In rural areas, route shields should be placed facing traffic on all county sign routes, main county roads, and county roads serving as direct connections

from State highways to communities. In such cases, a shield with a G35 sign shall be placed on the cross road facing entering traffic. At less important rural intersections, shields may be placed on the State highway in the draw position where they will be visible to entering traffic stopped at the stop sign.

When shields are to be installed and maintained outside the highway right-of-way, permission shall be obtained from the local agency involved.

4-04.9 Freeway Name Signing

1. ***Metropolitan Areas.*** The use of route numbers and cardinal directions is preferred in signing to freeways. At freeway to freeway interchanges, overhead signing by freeway name may be included in primary directional signs only when the freeway name is well recognized and space permits.

At other than freeway to freeway interchanges, G77 and G78 signs including both the freeway name and appropriate route shield may be used to direct to the named freeway.

2. ***Rural Areas.*** Ground-mounted freeway name signs may be installed beyond major freeway interchanges and at approximate 16 km intervals. Ordinarily, freeway names will not be used on signs directing to freeways in rural areas.

4-04.10 Memorial Named Highway Facilities

The Legislature, by concurrent resolution, may designate names for State highways and bridges. The Department of Transportation is authorized to expend reasonable sums for plaques.

The Legislature may request memorial named highway facilities to be designated with signs instead of a plaque and specify that the signs are to be furnished and installed "at no cost to the State".

When highway facilities are named by the Legislature, the following guidelines apply according to the type of facility.

1. ***Bridges.*** One sign shall be placed at the approach ends of the bridge, underpass,

tunnel or other structure with the name of the memorialized individual. Normally this would consist of an additional plate attached to the existing G11 bridge name sign. The color and size of the plate shall match the sign. The memorial name shall be smaller so that it does not dominate the standard G11 sign. The plate shall have reflectorized legend and border only when combined with another reflectorized sign.

2. **Freeways and Highways.** One sign shall be placed at each terminal. Signs shall be white on green with a maximum letter size of 200 mm caps and 150 mm lower case letter. Signs shall have reflectorized letters and borders on an opaque background.
3. **Rest Areas.** One sign shall be placed in advance of each named rest area. Normally a one line message would be placed above the Rest Area _____ Mile sign. The sign shall be white on blue with reflectorized legend and border. Maximum letter size shall be 200 mm caps and 150 mm lower case.
4. **Interchanges.** One bronze plaque shall be installed at each legislatively named interchange. Memorial name signs shall not be erected at interchanges.
5. **Vista Points.** One bronze plaque shall be installed at each legislatively named vista point. Memorial name signs shall not be installed in advance of vista points.

The size, color, and retroreflectorization of memorial named signs should match existing signs associated with the facility.

Standard letter size, type and stroke widths shall be used.

The words "memorial" and "safety roadside" are not normally included on the sign.

Bronze plaques normally should bear the name in 25 mm letters. However, the plaque should be no larger than 760 mm x 760 mm.

When the highway is a State facility, the following procedure should be followed when legislation includes a provision that either memorial signs or plaques be purchased and installed at no cost to the State.

The District Director will:

1. Contact the sponsor of the legislation to determine appropriate wording for the signs or plaques.
2. Prepare an estimate of cost for the signs or plaque installation, and submit the estimate to the sponsor.
3. After receipt of the funds from the sponsor, purchase and install the signs or plaque.
4. Notify the author and sponsor when the memorial signs or plaque are ready so that a dedication can be arranged.
5. Maintain all signs and plaques within the right-of-way.

The sponsor will:

1. Collect donations from individuals who appreciated the services provided by the memorialized individual.
2. Submit advance payment for the signs or plaque and installation to the department.
3. Arrange for suitable public dedication.

When legislation does not include the "at no cost to the State" provision, signs and plaques will continue to be furnished and installed at State expense.

Existing named highway facilities that have been designated with a bronze plaque are exempt from the above provisions and no signs are required.

4-04.11 Control City Signing

Signing should be consistent, to distant major destinations (control cities) for long trip orientation. Each district should determine its list of control cities in cooperation with adjacent districts and states to achieve continuity of signing for through traffic. Any given route should have the same control cities (in both directions of travel). The "control city" should remain the same on all successive signs throughout the length of the route until that destination is reached. There are circumstances, however, under which more than one destination point may properly be designated, as for example, where the route divides at some distance ahead to serve two destinations of similar importance. If these two destinations cannot appear on the same sign, alternating the two names may be justified on succeeding signs. On a route continuing into another state, destination(s) in the adjacent state should be shown. Control city messages are used for the following purposes:

- As the through message at freeway to freeway or other major interchanges.
- On signs facing cross-streets directing to a freeway.
- On the bottom line of G5 mileage signs.

4-04.12 Application of Directional Signing

1. **Conventional Highways.** It is essential that directional signs be easily seen and read. Drivers of moving vehicles are unable to read and comprehend complicated messages and signs. For this reason, the number of lines on a sign shall be kept to a minimum and in no case exceed three lines. A minimum spacing of 60 m between guide signs should be maintained. If there are more eligible destinations at a given intersection than can be accommodated under the above limitations, they must compete for signs on the basis of traffic volumes to these destinations. Normally, destinations are signed to by the route

requiring the least amount of time to travel from the nearest State highway.

2. **Freeways and Expressways.** On primary directional signs, either overhead or ground mounted, the number of messages shall not exceed two. If additional names or destinations are essential, they can be shown on a supplemental sign installed between the primary signs. A Next Exit sign should be used on freeways. A Next Right/Left sign, as appropriate, should be used on expressways. No more than two messages shall be used on a supplemental sign and no more than one sign of this type shall be used in advance of an exit in either rural or urban areas. On orientation signs, which do not require immediate action, three messages may be used.

Signs must be positioned and proportioned to permit motorists to recognize the messages, comprehend their meaning, make decisions and direct their vehicle into the proper lane without reducing their speed. All primary directional signs directing the motorist to take an action shall carry the same messages. A minimum spacing of 240 m should be maintained between guide signs in advance of the deceleration lane.

Good freeway signing provides enough information to guide motorists to their destination without overloading them with so much information they become confused.

Drivers must be expected to have information that is readily available on road maps and to have made some reasonable preparation for locating their exit

Highway exits will be identified on signs by route markers and street names. Community names should not be included on street name exit signs. If the interchange provides more than one exit to the street, cardinal directions should be included on the sign.

Sign Route markers provide a practical method of guiding motorists on county, state, U. S. and interstate sign routes. They continuously designate a route and provide information for long-distance travelers which cannot be provided by place name signs. For this reason route numbers should be given greater emphasis than place names.

Cardinal directions should be used with the route markers whenever there is a split in a numbered route. They should also be used at locations where there could be confusion on the part of the motorists as to the direction of a route. The overall north/south or east/west direction of the entire route will be used rather than the direction in any one area.

Usually, the route requiring the least amount of time to travel to a destination can be determined. Signing by alternate routes to the same destination shall be avoided. Normally, destinations will be signed to only by the most timely access from the nearest State highway.

The criteria for signing to practical types of places follow. Although these criteria must be met before a directional sign can be considered, they do not guarantee placement of signs. Other factors, including the maximum permissible number of signs and messages, must also be considered.

Arrows are used on many guide signs to indicate the directions toward designated routes or destinations. Arrows are pointed at any desired angle to convey a clear comprehension of the direction to be taken. At right-angle intersections, a horizontal arrow is appropriate. On a roadside sign a directional arrow for a straight through movement should point upward. For a turn to the right other than 90½, the arrow should be pointed upward as will best describe the design of the intersection and at an angle related to the sharpness of the turn.

4-04.13 Destination Signing

1. ***Primary Destination Signing.***

Consistent with the directional signing discussion in Section 4-04.12, signs may direct to the following:

- Streets or roads.
- Cities or unincorporated communities.
- National parks and monuments.
- State parks.

The destination sign is normally a horizontal rectangle carrying the name of a city, town, or other traffic generator, a directional arrow, and usually the distance to the place named. If several destinations are to be shown at the same point, the several names may be placed on the same panel with an arrow for each name. If more than one destination lies in the same direction, a single arrow may be used for such a group of destinations. Adequate separation should be made between destinations in one direction, and those in other directions. This can be accomplished by suitable design of the arrows, spacing between lines of legend, heavy lines entirely across the panel, or separate panels.

An arrow pointing vertically or an advance turn arrow to the left shall be at the extreme left of the sign, and an arrow pointing right shall be at the extreme right for signs mounted on the right side of the roadway. The next important destination lying straight ahead should be at the top of the sign, with the next important destinations to the left and to the right below it in that order. Distance figures, if used, shall follow after the destination name. As a general rule, the directional arrows should be horizontal or vertical, but at an irregular intersection a sloping arrow will sometimes convey a clearer indication of the direction to be followed.

TABLE 4-1
CRITERIA FOR SUPPLEMENTAL DESTINATION SIGNS

| <i>Type of Destination</i> | | <i>Major Metropolitan Areas</i> | <i>Urbanized Areas</i> | <i>Rrural Areas</i> |
|---|---|---|----------------------------|-------------------------|
| Post Secondary Schools, public or private (See Note 6) | Minimum enrollment (at sinlge campus locations) Mileage from highway (See Note 5) | 1,000 2 | 1,000 4 | 1,000 5 |
| Museums, Zoos, Stadiums and Sports Areans | Must be publicly owned and nonprofit Minimum Annual Attendance Mileage from highway (See Note 2) | 1,000,000 2 | 500,000 2 | 200,000 3 |
| Convevention Centers | Must be publicly owned Minimum Annual Attendance Minimum mileage from highway | 500,000 3 | 250,000 | |
| Military Bases | No. of Employees and Permanent Garrison Maximum from highway | 5,000 2 | 5,000 4 | 5,000 7 |
| Fairgrounds | Publicly owned and operated Unless there are activities year round temporary signs shall be used Minimum Annual Attendance Maximum mileage from highway | 500,000 2 | 200,000 4 | 200,000 5 |
| Federal or State Hospitals and Prisons | Maximum mileage from highway | 1 | 3 | 5 |
| Governmental Centers | Number of Employees Mileage from highway | 5,000 1 | 2,000 3 | 1,000 5 |

NOTES

1. Meeting the above criteria does not guarantee placement of signs. Limitations on the spacing between signs and the number of messages permitted, specified in Section 4-04, shall be observed and eligible destinations must compete for signing on the basis of traffic service.
2. Follow-up signing, if necessary, shall be installed by local agencies before signs are placed on the State highway.
3. If stadium is located at school for which signs are provided, separate stadium signs will not be placed.
4. Definitions of area classifications:
 - A. MAJOR METROPOLITAN AREA -- An urbanized area (* population density of at least 1,000 inhabitants per square mile), not necessarily related to county boundaries, with a total population of at least 1,000,000 and an included central city with a population of at least 250,000.
 - B. URBANIZED AREA -- An urbanized area* with a total population of at least 50,000 and an included central city (with no minimum population).
 - C. RURAL AREA -- All area outside of an urbanized area.
5. Minimum enrollment is 1000 or more full time students, or an average of 1000 or more different part-time students each week school is in session during the normal school year. A part-time student is defined as one who is attending one or more classes at the institution in a given week. A part time student that is attending more than one class is counted as one student.
6. No signs to schools shall be erected until the Caltrans has received funds from private sources covering the cost of erecting the signs. If a school, which previously had signs, moves to contribute to the improvement of the school (as determined by Caltrans), signs shall be erected at the new location at no cost to the school.

2. ***Supplemental Destination Signing.***

Subject to the limitations in the directional signing discussion, supplemental destination signs may be placed for the following:

- Streets or roads.
- Cities or unincorporated communities.
- National parks and monuments.
- State parks.

- Geographical points if they identify recognized areas, such as lakes, mountains, valleys, dams, reservoirs, etc..
- Historical landmarks recognized by the State Department of Parks and Recreation.
- Post Secondary Schools with an enrollment of 1,000 or more shall be signed to. In the event that a school which had been signed to, moves to a

new location for an improvement to the institution, the signing will be funded by the Department.

- Airports within three miles of a highway which are publicly owned or operated or which have certificated service by the U. S. Department of Transportation or the Public Utilities Commission. If there is more than a single airport in the area, the name of the airport may be included on the sign. Before denying any request for airport signing, the request shall be forwarded to Headquarters Traffic Operations Program for review with the Aeronautics Program.
- Signs shall not be provided for privately-owned, profit making enterprises regardless of their size. If unusual operational or safety issues become apparent that would be mitigated by signing to the private enterprise, signs may be used with the approval of the Program Manager of the Traffic Operations Program.
- Signs to shopping centers will not be allowed.
- When a street or facility name change is made on an existing sign on a State highway primarily for the benefit of the requestor, with no, or only minor, improvement of traffic flow, the costs of materials and labor for said change, plus the current overhead assessment rate as determined by the Accounting Service Center to cover administrative overhead, shall be paid by the requestor. Such changes will require approval of the District Director.
- The following is the procedure established to administer the finances of signing when it is to be financed by non-Caltrans sources. The District Traffic Branch shall contact District Project Control to set up an Expenditure Authorization (E. A.) Number to maintain control of the costs of the

work. In the body of the E. A. Description, the work should be described as an abatement/loss recovery (State Administrative Manual, Section 10220). The District Traffic Branch shall make a cost estimate for all of the labor, materials, equipment and overhead assessment required, and notify the requestor that this amount must be received by Caltrans and deposited in this particular E. A. account before work can begin. All labor, materials and equipment for this request shall be charged to this E. A. When the work is completed, written notice shall be sent to Headquarters Accounting Services Center, Office of Accounts Receivable and Program Accounting, Abatements and Reimbursements Branch, requesting that either a final billing or reimbursement be made.

- Street name changes on signs on State highways which are clearly in the best interest of the motorists and the State may also be approved by the District Director. New signs, if warranted, shall be installed at State expense.
- Signs to a public or nonprofit facility, such as a civic center, city hall, police department, park, zoo, swimming pool, library, public parking, museum and business district, may be installed and maintained on conventional State highways in a "city street" configuration, by local governmental bodies under an encroachment permit.
- Signs may also be installed for other traffic generators if they meet the criteria shown in Table 4-1. These criteria shall apply on conventional highways, expressways and freeways.

When available space for signs is limited, supplemental destination signs shall not be placed. Even though otherwise consistent with these policies, supplemental destination sign shall not be placed if they detract from necessary warning,

regulatory, construction signs, primary guide signs, or other public safety messages.

Variances from the above Supplemental Destination Guide Sign Policy will be allowed only if supported by a documented traffic study identifying the following conditions:

- When large volumes of traffic are generated and where distribution of traffic among two or more exits is necessary from a traffic operations standpoint, supplemental destination signs may be provided. In many cases, temporary signs can be used.
- Where a destination generates a substantial amount of traffic and access is not readily identifiable from the highway system, supplemental destination signs, preferably temporary, may be placed.

The Department will interpret this policy and place signs accordingly. Deviations from the signing policies will not be allowed unless a documented engineering study describes a substantial traffic problem that would be alleviated by increased signing.

4-04.14 Information Signs

1. ***Distance Signs.*** Distance signs provide advance information to the motorists of distances to destination points or exits off the freeway beyond the next exit ramp or branch connector. The Distance sign (G5) shall be a horizontal rectangle of a size appropriate to the required legend, carrying the names of not more than three cities, towns, villages or other traffic generators, and the distance (to the nearest mile) to those places.

The top name should be that of the next place on the route having a post office, railroad station, route number or name of an intersected highway, or other significant geographical identity. The lower most name should be that of the next destination or

"control city". If three destinations are shown, the middle line should be used to indicate communities of general interest along the route, or important route junctions. Choice of names for the middle line can be varied on successive distance signs to give motorists maximum information concerning communities served by the route.

Distance signs should be erected on important routes leaving municipalities and just beyond intersections of numbered routes in rural areas.

Distance signs shall be placed on the right side of the road to face traffic leaving the municipality, approximately 150 m outside of the municipal limits, or at the edge of the built up district if it extends beyond the edge of the corporation limits. When overlapping routes separate a short distance from the corporation limits, the Distance sign at the corporation limits should be omitted, and instead should be erected about 90 m beyond the separation of the two routes.

If, just outside of an incorporated municipality, two routes are concurrent and continue concurrently to the next incorporated municipality, the top name on the sign placed at such a point should be that of the place where the routes separate; the lower name should be that of the city which generates the greater part of the through traffic.

Distance sign should be erected in accordance with the general guidelines provided in Section 4-01.

2. ***Interchange Sequence Signs.*** When interchanges are so closely spaced, particularly through large urban areas, that standard advance guide signs cannot be adequately spaced (i.e. 240 m between signs), Interchange Sequence (G23) signs identifying the next two or three interchanges may be used. They are generally supplemental to overhead signs which provide information regarding lane

assignment and action points; however, they shall not be used as a substitute for exit direction signs.

When Interchange Sequence series signs are used, it is preferable to use them over the entire length of a route in an urban area. They should not be used on a single interchange basis. Signing of this type is compatible with the sign spreading concept. These signs display the next two or three interchanges by name with distances to the nearest 1/4 mile. When appropriate, route shields will be used on the line with the exit name. If a destination name is used, it will be followed by the word EXIT (for instance, SACRAMENTO EXIT).

When the exit direction is to the left, interchange names or route numbers shown on interchange sequence signs may be followed by the legend LEFT or LEFT EXIT in black letters on a yellow rectangular background. Separate panels may be attached to the sign for this purpose.

When two exit names are required at an interchange with a cross street named differently on opposite sides of a freeway, both names may be shown with a single distance; and, four messages may be used on the sign at these locations.

The signs should be placed on the right between interchanges. They should only be placed in the median when there is no alternative and where there is a median barrier.

3. **Miscellaneous Signs.** Miscellaneous guide signs may be installed as long as they do not interfere with primary destination signs. These signs include county line (G10) signs, state boundary (G10A) signs, river name (G11) signs, summit (G16) signs, and elevation (G17) signs. Policy and location for these signs are shown individually in Section 4-04.24.

4-04.15 Application of General Service Signing

On conventional highways, commercial services such as gas, food and lodging are generally within sight and available to the traveler at reasonably frequent intervals along the route. Consequently, there is not expected to be much need on this type of road for special signs calling attention to these services.

Special circumstances may justify General Service Signing in urban areas. If the visibility of the private advertising signs has been severely impaired or eliminated either by soundwalls or other items constructed on State right-of-way, or by landscaping or other vegetation on State right-of-way that can not be trimmed or removed, the location may qualify for General Service Signing.

The following additional criteria must also be met:

1. The business must be within 300 m of the intersection of the off-ramp and the surface street.
2. Only Fuel, Food and Lodging symbol signs of the G66 sign series will be used.
3. All other qualifying criteria for Fuel, Food and Lodging signs listed in section 4-04.15 shall be met.
4. New General Service Sign installations shall be mounted on existing sign supports. No new sign installations on State highways are to be placed without justification submitted to, and approval granted by, Headquarters Traffic Operations Program.

Except for the situation stated above, service signing will not normally be required in urban areas except for hospitals, tourist information centers and camping. It is quite likely, however, that General Service signs will be desirable or necessary where such services are infrequent. They may be used through predominately residential or industrial areas where such services are not readily apparent to the motorist.

Although there are no commercial services available to the traveler between freeway

interchanges, it is expected that adequate services will be available near most major interchange sites.

However, on those rural sections where such services are infrequent, drivers will need information to enable them to plan their stops.

Service signing is intended to be a service to the motorist. It is not meant to be advertising for the individual businesses that provide the services. Accordingly, it would be a disservice to motorists to lead them off on a minor road to a business providing a certain type of service when that same type of service may be obtained in a shorter distance on the major road. This is also true for the motorist traveling in the opposite direction. Since our intent is to inform the motorist of services that might be needed and have not been available for some distance, it is not practical to sign to every service along a route, particularly when many of them may be the same type of service.

Service signing should only be placed at interchanges that have access to the freeway in both directions. It is very misleading to motorists to guide them off of the freeway to a service and then have them come back to the freeway and not be able to find an entrance in the direction they want to travel.

When private advertising for a service is visible to the motorist far enough in advance for the motorist to make a decision and take appropriate action, there is no need to place service signs to that particular business.

Services now have the possibility of being signed to when they are up to 8 and 16 km from the major route. This has the possibility of creating a round trip, from the exit point on the major route to the service and back, of up to 16 and 32 km. Many motorists may feel, and justifiably so, that this is too far out of the way. To avoid misleading the motorist, a mileage plate should be installed below all services signs when it is 0.8 km or more from the access point on the major route to the service.

General Service signs shall have a white reflective symbol or legend and border on a blue background. Whenever possible, they should be

placed below the primary advance ground mounted directional signs.

Approved symbol signs shall be used in lieu of word messages for all new General Service Sign installations identifiable with approved symbols and for all routine maintenance replacements.

Symbol signs are the preferred service sign because:

- Most people quickly recognize symbols so that viewing time is reduced.
- Non-English speaking tourists and immigrants more quickly understand the service available.
- A symbol sign takes up less space, resulting in fewer roadside obstacles.
- Symbol sign costs are generally lower than for word message signs.

No more than four symbols should be mounted beneath a single sign. Symbol signs and word message signs (other than supplemental plates) should not be mixed. If there are no ground-mounted guide signs available, the General Service signs may be placed as separate installations with a directional arrow or message NEXT RIGHT. General Service signs may be in addition to the normal complement of signs, but minimum spacing standards will be maintained.

Follow-up signing, if necessary, shall be placed by local jurisdictions before General Service signs are placed on the State Highway.

The International Symbol of Access for the Handicapped sign may be used where paved ramps and rest room facilities accessible to, and usable by, the physically handicapped are provided.

Specific Service Information signs displaying specific business logos may be erected only at those locations, and in the manner, outlined in the California statutes authorizing their use. See 4-04.16.

Subject to the above limitations, General Service signs may be placed as follows:

- GAS, FOOD, and LODGING signs (G66 General Service Series) may be placed, where appropriate, on freeways

and expressways and for bypassed communities reasonably accessible from the highway. They are often placed to indicate a motel strip at the edge of a community. They should be considered only when there is an easy route for the motorist to return to the freeway from the service facility. They are not normally used on conventional highways except in rural areas where the service facilities are not visible from the highway. In such cases, the same criteria as for freeways will be used.

The following criteria shall be followed in determining need for signs in each category:

1. GAS AND DIESEL

- a. The maximum distance to a service station shall be 0.8 km, and have reasonably direct access from, and return to, the highway. Service may be signed to, in bypassed communities, if the distance to the service is less than the distance to the next service on the through route.
- b. Gas, oil, compressed air, air gauge, radiator water, drinking water, telephone and rest rooms shall be available during all service hours.
- c. The station should be open at least 12 hours a day.
- d. Where gasoline is available, the Standard Gas Pump symbol sign shall be used. Where both gasoline and diesel is available, only one Gas Pump symbol sign with superimposed "D" shall be used. Where liquefied petroleum gas is available, a supplemental plate (G81-52) may be used below either symbol sign. Where Methanol fuel is available, the Methanol fuel symbol sign (G66-11) and supplemental plate (G66-11A) may be used in addition to other appropriate service signs.

2. FOOD OR LODGING

To qualify for food signs, single establishments must be open to serve at least two meals a day. Both food and lodging establishments must score at least 10 points in the following categories, including at least one point in Category f, to qualify for signs:

- a. Maximum distance in kilometers from the highway exit to the first service facility:

| | |
|----------------|----------|
| 0 - 1.6 km | 3 points |
| 1.6 - 3.2 km | 2 points |
| 3.2 - 8 km | 1 point |
| More than 8 km | 0 points |
- b. Number of traffic control devices (signals or stop signs) between the exit and the facility:

| | |
|-------------|----------|
| 0-1 devices | 3 points |
| 2-3 devices | 2 points |
| 4-5 devices | 1 point |
| More than 5 | 0 points |
- c. Number of seats available in food facilities:

| | |
|--------------|----------|
| 50 or more | 3 points |
| 30-49 | 2 points |
| 15-29 | 1 point |
| Less than 15 | 0 points |
- d. Number of rooms available with private baths at lodging facilities:

| | |
|-------------|----------|
| 30 or more | 3 points |
| 10-30 | 2 points |
| 2-10 | 1 point |
| Less than 2 | 0 points |
- e. Distance in kilometers to the next highway exit served by a food or lodging establishment:

| | |
|----------------|----------|
| 24 or more km | 3 points |
| 11- 24 km | 2 points |
| 5 - 11 km | 1 point |
| Less than 5 km | 0 points |
- f. Judgement factors include comfort, appearance, scope of service provided, etc., should be scored 0 to 3 points by the inspecting official.

3. CAMPER symbol signs (G66 Series) may be placed for campgrounds providing individual service and utility hookups for one-night stops for travel trailers, campers, and other recreational vehicles.

To qualify for CAMPER signs, the facility must meet all of the following criteria:

- a. It shall be licensed for private operation, or be operated by a governmental agency.
- b. It shall be accessible to, and capable of handling all types of recreational vehicles.
- c. It shall be open to the public for 24 hours each day during the time the signs are in place.
- d. It shall be no more than 16 km from the highway exit designated by the sign.
- e. It shall be equipped to handle a minimum of 25 travel trailers, campers, and other recreational vehicles for overnight stops, including individual service, utility hook-ups, and individual sewer connections or a central sewer holding tank.
- f. Follow-up signing must be installed and maintained by local agencies where required for the logical direction of traffic.

4. TOURIST INFORMATION signs (G81 Series) may be placed directing to off-highway facilities provided they meet specified criteria. Signing will generally be restricted to those facilities which are spaced no closer than 24 km apart in each direction along any highway. Duplication of signs along nonaccess-controlled highways is to be avoided. State signs should be placed only where privately-owned off-highway signs would not reasonably provide adequate direction to motorists. TOURIST INFORMATION signs should be placed

beneath the REST AREA sign (G80) or other primary guide signs. If no guide signs are available, they may be placed as separate installations.

All Tourist Information signing requests should be reviewed and processed by the District Traffic Operations Program, Signing and Delineation Branch.

The following is the criteria for Tourist Information signing:

- a. Facilities must have a principal function of providing tourist information. Those facilities provided by local chamber of commerce (or other official body) representing a group of people or businesses shall be given initial priority for signing.
- b. Facilities should be within 0.8 km of the highway and have reasonably direct access from, and return to, the highway.
- c. Facilities should provide lighting and telephone on a 24 hour basis.
- d. Facilities should provide the following information 24 hours a day and cover the entire area served:
Area maps, regional maps, and emergency 24-hour service information including, but not limited to (1) medical; (2) police; (3) fire; (4) rest rooms; (5) auto repair service; (6) fuel.
Outside maps and other displays must be provided at all manned centers for use during periods when the facility is not manned.
- e. Facilities should have adequate on-premise and off right-of-way signing, where necessary, denoting "tourist information".
- f. All information displays should be of professional design and construction and provide resistance to fading, chipping and vandalism.
- g. Signs directing motorists to facilities located in seasonal areas, where the

- criteria cannot be met during closed periods, shall be covered during the periods when the facilities are closed.
5. HOSPITALS, as defined in Section 70005 of Title 22 of the California Administrative Code and licensed by the Department of Health Services, which provide 24-hour inpatient care, in urban and rural areas which are located in close proximity to a highway and provide specified medical services, may qualify for the Hospital symbol sign (G66-13).

Hospital symbol signs may be provided for hospitals in urban areas within 1.6 km of a highway, accept emergency cases and have a medical doctor in attendance 24 hours a day. For signing in rural areas, a hospital must be located within 4.8 km of a highway, accept emergency cases, and have a doctor on call 24 hours a day. Exceptions to the kilometer requirement may be made in areas where hospitals are many kilometers apart.
 6. RADIO-WEATHER INFORMATION signs (G81-60) may be used on rural highways where weather conditions result in driving conditions less than optimum (see G81 specification sheet for the sign policy).
 7. REST AREA and VISTA POINT signs (G80) may be placed for publicly owned facilities.
 8. TELEPHONE symbol signs (G66-17) may be placed where a telephone is available 24 hours a day and is located in a remote area where it would not be expected.
 9. HIGHWAY PATROL symbol signs (G66-57) may be placed for California Highway Patrol offices located within 1.6 km of a highway.
 10. FEDERAL and STATE FOREST SERVICE signs may be placed at ranger stations which are staffed throughout the year and are available to provide information and assistance to the traveler.

Cooperative responsibilities for signing by Caltrans in National Forest Service lands are outlined in a Memorandum of Understanding dated April 21, 1989, an Addendum dated January 30, 1990, and subsequent amendments.
 11. Emergency Service signs, such as DRINKING WATER, RADIATOR WATER, etc., may be placed when appropriate.
 12. CARPOOL INFORMATION signs (G81-27) may be placed in or near urban areas having carpool matching services. It is considered in the public interest to permit the use of carpool information signs adjacent to HOV lanes and along any urban highway. As these are information signs related to motorist services, they should have a white legend on a blue background.
 13. SURFACE TRANSPORTATION ASSISTANCE ACT, (STAA); STAA TRUCK SERVICE and STAA TRUCK TERMINAL ACCESS symbol signs (G66-55 & G66-56) are placed by the California Department of Transportation, (Caltrans) on the National Network for STAA trucks to identify locations where STAA trucks may leave the National Network to access services and terminals as provided for by CVC 35401.5(c) and (d). As used herein, "STAA Truck" refers to any tractor-semitrailer combination or set of doubles with length configuration such that the truck may operate legally only on the National Network highways, Terminal access highways, and signed access to services.

A. SERVICES

Exit of STAA trucks from the National Network to service facilities is allowed only if the STAA service symbol sign (G66-55) is displayed in advance of the ramp or intersection. Although no follow-up signing is required, trail-blazer signs may be used where applicable.

STAA truck service signs will be provided only if the following conditions are met:

1. ***ACCESS (All requirements must be met.)***

- Fuel, food, lodging or truck repair is located within one road mile (1.6 km) of point of ingress and egress from the designated system.
- Ramps, intersections and streets have adequate turning radii and lane widths to safely accommodate these vehicles.
- The service being made accessible has provisions for parking STAA trucks, or alternative parking within the one road mile (1.6 km) is identified.

2. ***FACILITIES (Two of the three services - fuel, food, lodging - must be provided.)***

- Fuel (Diesel) - Oil, tire repair, water, telephone and rest rooms must be available at least 16 hours a day.
- Food - Must conform to the requirements for food signs in this section of the Traffic Manual.
- Lodging - Must conform to the requirements for lodging signs in this section of the Traffic Manual.
- Repair Services - A service sign will not be posted unless the criteria for two of the three services (fuel, food and lodging) are met at the same egress point.

3. ***CONCURRENCE***

- The proposal for service signing has written concurrence by the local jurisdiction(s) having responsibility for maintenance of the roadways within 0.8 km of ingress/egress.

B. TERMINAL ACCESS

Exit of STAA trucks from the National Network to terminals is allowed only if the STAA Terminal Access symbol sign (G66-56) is displayed in advance of the ramp or intersection. Before signing such egress, trail-blazer and "end" access signing of the access route(s) shall be erected.

STAA Truck Terminal Access Route signing shall be provided as follows:

1. ***STATE HIGHWAYS***

- Only routes or route segments meeting geometric criteria for STAA trucks shall be signed.
- Signing shall be placed at every decision point on the route indicating which direction(s) on the route a STAA truck may proceed
- The end of any route segment shall be signed as such.
- Signing of egress from a terminal access route to a local street or highway shall be erected only if:
 - a. such signing is requested by the local jurisdiction; and,
 - b. the State-owned ramp or intersection utilized for such egress meets the geometric criteria for STAA trucks; and,
 - c. the local route has been signed.

2. **LOCAL STREETS AND HIGHWAYS**

- A sign shall be placed by the local agency at every decision point on the route to the terminal.
- Roads should have adequate turning radii and lane width to accommodate these vehicles.
- General traffic conditions such as sight distance, speed and traffic volumes will not preclude operation.
- If the route passes through more than one local jurisdiction, the city or county where the terminal is located shall acquire concurrence from all affected jurisdictions before requesting access from the National Network or the state terminal access route.

Maps identifying the National Network and the State terminal access routes are available at Caltrans district offices.

4-04.16 Specific Service Signing (Logo)

Section 101.7 of the Streets and Highways Code provides for specific service signing (Logo) on all rural freeways in California. The term "rural" means any area outside of an "urban" area. An urban area is an area encompassing a population of 5,000 or more.

The specific service signing (Logo) program is intended to provide a service to the motorist, not an alternative advertising method for highway oriented businesses.

A business logo may consist of the business identification symbol, name, brand, trademark, or combination, and shall be shown on a separate panel which is attached to the specific service sign. Logos, other than a business identification symbol or trademark, shall have a blue background with a white legend and border.

Messages, symbols, and trademarks which resemble any official traffic control device shall not be used.

All policies and warrants are set and administered by the Caltrans Traffic Operations Program, Encroachment Permits Branch. All requests should be directed to the District Encroachment Permits Engineer.

4-04.17 Recreational and Historic Signs

Recreational Area signs (G71, G72, G91 series and G200 series) shall have a white reflectorized legend and border on a brown background. Historic Landmark signs (G13 and G14) shall have a brown legend and border on a cream-colored background. Point of Historical Interest signs (G15) shall have a cream legend on a brown background. Recreational Area signs are supplemental signs and are subject to the same spacing (and number of messages) limitations set forth in Section 4-04.12. Under these limitations, eligible supplemental destinations and recreational areas must compete for signing on the basis of traffic service.

Historical Landmark signs may be in addition to the normal compliment of signs, but minimum spacing will be maintained.

1. Signs may be placed directing to Historical Landmarks that are registered with the Department of Parks and Recreation. On freeways, such signs will be limited to those more important and better known landmarks where some physical evidence remains, such as missions, forts, state monuments, etc., rather than mere sites of former buildings or happenings.

The Office of Historic Preservation in the Department of Parks and Recreation (or the Resource Protection Division in the case of State Historic Park sites) shall be notified prior to the removal of an existing Historical Landmark sign.

The G15 sign may be used to direct to Points of Historical Interest that are registered with the Department of Parks and Recreation. They are ordinarily placed when requested by local authorities, after markers or other identification have been placed at the location and follow-up signs, if necessary, have been installed. Such signs shall not be placed on freeways.

2. Recreational area signs to National Parks and State Parks should normally include the name of the area. County and City Park signs should not normally include the name.

Recreational area signs may be placed for the following facilities:

- NATIONAL PARKS or Monuments.
- STATE PARKS when located within 8 km of the highway.
- COUNTY PARKS when located within 4.8 km of the highway.
- In urban areas, CITY PARKS within 1.6 km may be signed from conventional highways. Normally, City Parks shall not be signed to from metropolitan freeways.
- CAMPGROUNDS in National Forests or State Parks may be signed from conventional highways when the entrances are located on the highway. An advance sign reading "Campground 1/4 mile" may be placed. Signs at the immediate entrance shall be placed by the agency having jurisdiction over the campground.
- Major rural recreational areas may be signed by name. When a recreational area is served by more than a single exit, the appropriate colored NEXT ____ EXITS sign (G87) may be used. Normally, the sign shall include the name of the area and "RECREATIONAL AREA".
- In rural recreational areas, guide signs may be supplemented with white on brown symbol signs mounted below indicating recreational facilities available to the motorists. The following messages are standard and any recreational symbol signs other than the approved Federal Recreational symbols (G200 Series) shall be approved by Headquarters Traffic Operations.
- SKIING symbol signs may be used for facilities which have a ski lift or tow in operation.
- CAMPING symbol signs may be used for campsite facilities, either public or private, located within 4.8 km of the highway. A minimum of 15 campsites must be provided. Water and sanitary facilities must be available, but not necessarily at each individual campsite.
- PICNICKING symbol signs may be used for picnic areas, either public or private, located within 1.6 km of a highway. A minimum of 10 sites with picnic tables shall be provided. Water and sanitary facilities shall be available.
- BOATING symbol signs may be used for boat launching facilities, either public or private, located within 4.8 km of a highway
- TRAILER SITES symbol signs and TRAILER SANITARY Station symbol signs (G200 series) may be used to direct motorists to facilities which can accommodate trailers and campers and are located within 16 km of a highway.

4-04.18 Application of Overhead Signs

Overhead guide signs are rectangular in shape with the longer dimension horizontal. They shall have a white reflectorized legend and border on a green background. Supplemental plates or temporary panels with black legend on yellow or white shall have reflectorized backgrounds.

The overall length of overhead sign panels shall be rounded off to the nearest 0.3 m increment for laminated panels and to the nearest 0.6 m increment for formed single-sheet panels.

Abbreviations should be avoided if possible. When necessary because of limited space, only those that are well known should be used.

On overhead signs where it is desired to indicate a lane to be used, an arrow shall point downward toward the center of that lane. Where a roadway is leaving the through lanes, the arrows should point upward at an angle representative of the alignment of the exiting roadway. If required, the through roadway lanes will be identified by downward pointing arrows. On optional lanes, both adjacent sign panels should have down arrows to the optional lane.

Downward pointing arrows shall be used only on overhead guide signs which restrict the use of specific lanes to traffic bound for the destination(s) and/or route(s) indicated by these arrows. Downward pointing arrows shall not be used unless an arrow can be pointed to each lane that can be used to reach the destination shown on the sign.

Arrows may be placed below the other sign legend, or to one side of it. At an exit, an arrow should be placed at the side of the sign which will reinforce the movement of the exiting traffic.

The standard position for route shields on signs for branch connections and through messages shall be on the top line. When multiple route shields are used on signs with down arrows, the shields should be grouped in the center above the message to avoid the appearance of pertaining to any single one of several down arrows. At other locations, the route shield may be on line with the message and, if possible, be on the same side of the sign as the indicated traffic movement. Tables and figures near the end of this section give letter widths, spacing, arrow and shield layouts, etc., for sign design.

Mounting details for bridge-mounted signs on State highways should be prepared by the office of Structures Design. Bridge-mounted signs should not project above the bridge rail by more than 0.3 m.

4-04.19 Placement of Overhead Signs

The minimum vertical clearance for signs shall be 5.5 m above the pavement surface or, if outside the shoulder area, above ground level. When clear roadside recovery areas are provided, the sign supports shall be placed as far from the edge of the traveled way as possible. However, the sign should not be placed so far away from the edge of the traveled way as to reduce the motorists' perception of the intent of the sign message. Signs placed in unprotected locations shall be placed on cantilever structures to provide the maximum possible horizontal clearance to the sign support. See 7-02.1

Overcrossing structures can often serve for the support for overhead signs, and may be the only practical location that will provide adequate viewing distance. Use of these structures as sign supports will minimize the need for sign supports along the roadway. Where overhead crossings are closely spaced and the proximity of other structures does not limit visibility, it is desirable to place signs on the bridges for economy, to reduce fixed objects and to enhance safety.

Butterfly-type signs, and other overhead sign supports should not be erected in gores or other exposed locations in new signing projects.

Guardrail protection shall be provided for overhead sign supports if they are located within the following distances from the edge of the traveled way (also known as Clear Recovery Area): 9 m on freeways and expressways, 6 m on conventional highways without curbs and 0.5 m on conventional highways with curbs.

In cuts steeper than 1 to 4, where there are no recovery areas, the sign supports shall be placed on the slopes a minimum of 1.2 m vertically from the hinge point. On fill sections, sign supports shall be protected by a minimum of 15 m of guardrail plus the breakaway end anchor. The supports shall be placed over the hinge point approximately 1.2 m from the face of the guard rail.

The median support on overhead sign bridges shall be centered in medians 18 m or less in width and shall be placed 9 m from the edge of the traveled

way in wider medians. Unless there are protected locations, sign bridge supports shall not be placed in medians 6.7 m or less in width. Overhead signs should be placed at least 9 m from light standards.

4-04.20 Types of Overhead Sign Structures

There are four types of overhead sign structures: tubular, truss, box beam, and light weight. The tubular, truss and box beam designs are alternate standards for signing on freeways. Lightweight designs may also be used on freeways if the panel sizes do not exceed the dimensions 6096 mm x 2540 mm and do not extend over the traveled way. The lightweight designs are generally used on conventional highways at junctions with freeways, at signalized intersections, etc., where overhead signing is warranted.

4-04.21 Use of Overhead Signs

Overhead guide signs may be classified into three general groupings. Action (Exit Direction) type (G85) guide signs provide messages that will allow motorists to leave a particular route via a branch connector or leave the freeway system via an exit ramp in order to continue to their destination. Interchange Sequence (Distance) type (G23) guide signs inform motorists of distances to exits on the freeway beyond the next exit ramp or branch connector. Lane Assignment (Exit Only or Pull Thru) type (G24) guide signs inform motorists of the correct lane or lanes assigned to traffic proceeding on a specific route or to a specific exit or location; they are used at interchanges to indicate the through lanes continuing beyond an exit ramp or freeway branch connector.

Overhead signs should be considered under any of the following conditions:

- Traffic volumes are such that roadside signs are not adequate.
- Three or more lanes in each direction.
- Necessity to have a sign message directly over the lane to which it refers.

- Insufficient roadway width to provide proper clearance for reflectorized signs in the standard position on the right-hand side of the roadway. See Section 4-01.
- Background of street lighting or advertising signs that tend to draw attention from roadside signs.
- On multilane city streets or one-way streets where directional problems exist for heavy volumes of through traffic.
- Left-hand exits from freeways.
- Branch connectors between freeways.

The following discussion of overhead signing supplements the general information provided in Section 4-04.12, Application of Directional Signing, Section 4-04.13, Destination Signing, and Section 4-04.14, Information Signs.

1. **Advance Signs.** The G83 Distance and G86 NEXT RIGHT signs, for use on conventional highways and expressways, wherever possible, shall be mounted on overcrossing structures or in protected locations on the right. The G86 alternate message NEXT EXIT should be used on freeways. The G86 signs may be omitted at low traffic volume interchanges or at major interchanges that are spaced 0.8 km or less apart. They may also be omitted where interchanges are 1.6 km or less apart and G23 Interchange Sequence signs are used.

Ordinarily, down arrows shall not be used on advance signs. There are exceptions, i.e., on lane assignment signs in advance of exit ramps or branch connectors and at locations where a lane is dropped at the ramp or connector. In the latter cases, the down arrow shall be used with the message EXIT ONLY for exit ramps, and ONLY for freeway to freeway branch connectors, in black letters on a yellow background. A down arrow may also be used when the first advance sign is located 0.4 km or less in advance of the exit ramp.

If the sign is the advance notice for an interchange where distant destinations are used for the primary messages, the word EXIT should be used on the bottom line with the distance.

2. **Exit Direction Signs.** The exit direction sign repeats the route and destination information that was shown on the advance guide sign(s) for the next exit, and thereby assures the driver of the destination served and indicates whether he leaves on the right or the left for that destination.

Exit direction signs are required at major and at intermediate interchanges and should be used at minor interchanges. At the beginning of a deceleration lane, such signs are usually ground mounted on the right. If there is less than 91 m from the beginning of the deceleration lane to the theoretical gore, the exit direction sign should be erected overhead over the existing lane in the vicinity of the theoretical gore. Where a through lane is being terminated at an exit (a "lane drop"), the exit direction sign should be placed overhead at the theoretical gore.

Diagonal up arrows indicating the exit ramp may be placed either at the right of or beneath the message, depending upon the number and length of the messages. At locations where an abrupt reduction in speed is required, curved arrows may be used on the overhead G85 sign, supplemented with a W72 Exit Speed sign.

At two-lane exit ramps or branch connectors, either down arrows or up diagonal arrows may be used. Generally, if the ramp or connector is located on a curve where down arrows may appear to be assigning the wrong lanes when viewing from across a curve, diagonal up arrows may be preferable. If a through message is required for lane assignment, as at interchanges between major sign routes or

at interchanges with two separate exits, a sign bridge or cantilever with appropriate information may be used.

When relocating butterfly gore signs or in new installations, in lieu of spreading the action message (G86) and advance message (G83) for the next exit, the two-panel cantilever signs containing both the action message and the advance message may be used on the same cantilever sign. When used, the advance message shall be oriented over the through lane. It should be recognized that a "double cantilever" sign may not always be appropriate due to sight restrictions, curvilinear alignment and the limited length of cantilever structures.

In some cases, principally in urban areas, restricted sight distance due to structures or unusual alignment, may make it impossible to locate the exit direction sign without violating the required minimum spacing between major guide signs. In such circumstances, interchange sequence series signs may be substituted for an advance guide sign, but shall not be substituted for the exit direction sign.

3. **Pull Through Lanes.** Through messages will generally be used at branch connectors between freeways or major sign routes. These "Pull Through" panels should be structure mounted if the overcrossing structure is close enough that the message can be read from the exit ramp gore. Otherwise, sign bridges spanning the roadway will be required.
4. **Branch Connectors.** For signing connectors see Figure 4-16. The normal sequence should consist of a cantilever sign at least 1.6 km in advance followed by a sign bridge 450 m to 600 m in advance of the gore, and a second sign bridge at the gore.

The intermediate sign bridge should be placed on tangent, if possible, normally just past the point where the added lanes reach full width. Down arrows should be used over all lanes on advance signs if there is an optional lane or if the through lanes are not readily apparent to the motorist. Optional lanes are signed as such by the use of two down arrows over the single lane. (See Figure 4-14)

When the through lanes are obvious, a panel without down arrows may be centered over them.

The gore sign bridge shall be located at the beginning of the gore stripe where all lanes have reached full width. All exiting lanes shall be marked with down or up diagonal arrows, whichever best indicates the existing geometrics. Generally, a panel without down arrows, centered over the through lanes, will be adequate on the gore sign bridge.

5. **Diagrammatic Signs.** Diagrammatic signs are signs that show a graphic view of the exit arrangement in relationship to the main highway.

Diagrammatic signs should be considered at the advance guide sign locations for left exits, splits having off-route movements to the left, optional lane splits, exits with route discontinuity, and left exit lane drops. Diagrammatic signs may be used at two-lane exits with an optional lane. At cloverleaf interchanges, diagrammatic signs have shown to be inferior to conventional signs and shall not be used.

Diagrammatic signs shall be designed in accordance with the following criteria:

- a. The graphic legend shall be that of a plan view showing a simplified exit ramp arrangement.

- b. Only one destination may be shown for each arrow head, with a maximum of two destinations per sign.
- c. The graphic should not depict deceleration lanes. A black on yellow W61 panel should be used to supplement a lane drop graphic.
- d. The shaft for the exit ramp movement should be shorter than, but not separated from, the through movement graphic.
- e. Arrow shafts may contain lane lines where appropriate. Route shields shall not be used as substitutes for arrow heads.
- f. Route shields, cardinal directions and destinations should be clearly related to the arrowhead and the arrowhead should point toward the route shield for the off movement.
- g. The cardinal direction should generally be placed adjacent to the route shield and the destination should be placed below and justified with the route shield.

6. **Signing for Interchange Lane Drops.** Major guide signs for all lane drops at interchanges shall be mounted overhead. The EXIT ONLY panel(s) (W61 Series) shall be used for all interchange lane drops except at freeway to freeway interchanges where the "ONLY" panel (W61B) shall be used by itself. Advance guide signs for lane drops at exits on the left side should use diagrammatic signing with the EXIT ONLY panel (W61C), without a down arrow. On freeway to freeway interchanges, the "ONLY" panel (W61B) shall be used by itself.

EXIT ONLY messages W61A and W61B or W61C may be used on **existing** signing to warn of a lane drop situation ahead. The W61A and the W61B should be placed on either side of an existing white-on-green down arrow (See Figure 4-12).

The W61C panel, when used on a nondiagrammatic sign, shall be placed between the lower destination message and the existing white-on-green down arrow. A standard up arrow (left or right side) shall be used with the EXIT ONLY W61C panel at the exit direction sign location. Advance guide signs at 1.6 km and 3.2 km, when used, shall contain the distance message. Advance guide signs for lane drops within 1.6 km of the interchange should not contain the distance message. Wherever the dropped lane carries the through route, diagrammatic signs should be used without the EXIT ONLY panel.

Lane drop treatment at the various types of interchanges should be as follows:

- a. **Cloverleaf.** This type of interchange has two exits for each direction of travel. The exits are closely spaced and have common advance guide signs. The advance guide signs should include two place names, one corresponding to each exit ramp, with the name of the place served by the first exit on the upper line. An overhead sign shall be placed at the theoretical gore point of the first exit ramp, with an upward slanting arrow on the sign for that exit and the message, "1/4 MILE", on the sign for the second exit. The second exit shall be indicated by an overhead exit direction sign over the auxiliary lane mounted on the structure if the freeway passes under the crossroad, or on a cantilever or full-span structure if the freeway passes over the crossroad. A G84 gore sign shall also be used at each exit.
- b. **Cloverleaf with Collector-Distributor Roadways.** Signing on the collector-distributor roadway shall be basically the same as on a cloverleaf interchange.

Signs for these exits shall be overhead and located at the theoretical gore of the collector-distributor roadway and the exit ramp.

- c. **Partial Cloverleaf.** The overhead exit direction sign at a partial cloverleaf should be placed on the structure if the freeway passes under the crossroad and the exit roadway is beyond the structure. A G84 sign shall also be used.
- d. **Diamond.** The signing layout for all interchanges having only one exit ramp in the direction of travel should be similar. In urban areas, street names are often shown as the primary message on destination signs. If diamond interchanges are too closely spaced to properly locate the advance guide signs, they may be placed closer to the exit, and the mileage figures adjusted accordingly.

4-04.22 Illumination and Retroreflectorization of Overhead Signs

The legends and borders of all overhead guide signs will be reflectorized. Reflectorized backgrounds on overhead guide signs are not normally required, but may be justified under special conditions of high ambient lighting or other factors.

On State highways, retroreflectorization of legend and borders will be provided by means of cube-corner acrylic plastic reflector buttons on a green opaque background.

All illuminated signs that extend over the traveled way, including structure mounted signs, shall include maintenance walkways. Structure mounted signs are normally serviced from the overcrossing structure. Walkways on sign structures should be extended to provide access from the right shoulder. Walkways should be continuous between panels on special sign structures.

Overhead sign panels to be installed on overcrossing structures (or sign structures) with

walkways and lighting should be ordered without bottom borders, as their visibility would be blocked by catwalks and light fixtures. The borders shall be retained on the top and sides of the panel and shall extend 0.3 m inward from the edges of the panel at the lower corners.

Maintenance walkways should be provided on non-illuminated overhead signs in areas where the need for periodic dry-washing of overhead signs can be anticipated.

4-04.23 Structural Details of Overhead Signs

Structural details for the various types of post mounted overhead signs are covered by standard plans prepared by the Office of Structures Design. The appropriate standard plan should be marked off on the Standard Plan list and forwarded to Headquarters with the preliminary report. The report should also indicate any Special Detail sheets that are to be included.

The District shall prepare an Overhead Sign Format and Quantities Sheet, which has an elevation view of each sign drawn to scale showing sign message, panel arrangements, post type and basic dimensions and elevations. The sheet shall also show a table of quantities. An index of the Special Detail sheets by title shall be included.

The size limitation for each structure are covered on the Standard Plan sheets for Tubular Truss, and Box Beam types and on the Sign Reference Sheets for Lightweight type signs. Exceeding these limits will require a special design.

1. ***Sign Structures on Bridges or Viaducts.***

The standard plans can be used for overhead signs to be erected on bridge or viaduct structures. However, the sign design must be coordinated with the Office of Structures Design to ensure that provisions for mounting the sign on the structure are included in the bridge design. Signs of this type impose additional stresses which must be taken into account in the design of the bridge. For this reason, it is extremely

important that the Office of Structures Design be furnished information relative to sign size and location at the earliest possible date.

If the exact location of the sign is not important and can be varied $30\text{ m}\pm$, it should be so indicated in the advance information. This will provide the bridge designer some latitude in positioning the sign at a location most advantageous and economical from a structural standpoint.

2. ***Signs Mounted on Sides of Overcrossing and Undercrossing Structures.*** Details for mounting overhead signs on the sides of overcrossing and undercrossing structures are not covered by the standard plans. All signs of this type should be referred to the Office of Structures Design for review or design. The Office of Structures Design will provide the special detail sheets for such signs on existing structures.

Signs mounted on the sides of overcrossing structures should not extend more than 0.3 m above the top of the bridge railing. Exceptions should be submitted to the Office of Structures Design and noted as a special proposal with full details and requirements.

Structure mounted signs may be placed parallel with the structures for skews up to 10° . At greater angles of skew, mounting brackets are required to position the sign as close to 10° from the normal as possible. If the skew is so great that special mounting brackets are not practical, separate sign structures shall be used.

The locations and types of any roadside signs to be mounted on barrier railings should be submitted to the Office of Structures Design for approval before the District completes the table on the barrier-rail-mounted sign sheet.

3. ***Special Designs.*** Special aesthetic sign structure designs, where warranted, will be provided by the Office of Structures Design upon request. All data for these and other special designs, including structure mounted signs, will be forwarded to the Office of Structures Design and should include the following:
- a. Necessary completion date. This should be the date when the District desires to forward the complete contract plans to Headquarters. At least three months should be allowed for the special design of a sign structure where no bridge or overcrossing structure is involved. At least two months should be allowed for a structure mounted sign design.
 - b. Cross section of the highway showing elevations at the top of the proposed concrete foundations for the sign standard together with elevations of pavement or superelevation. The sign panel and frame dimensions, and positioning of panels and supports, must be submitted with each special request and the post "h" should be given instead of the roadway cross section if possible.
 - c. When special foundations are required, the allowable supporting value of the soil must be submitted for a spread footing and elevation for penetration for a pile footing. If no borings are available, submit the station of the sign and the name and number of the closest bridge in either direction. It may be possible to obtain the desired information from the bridge records.
 - d. If a sign is to be mounted on a structure, two copies of the appropriate data should be submitted to the Office of Structures Design with the request for any special sign.
 - e. A small scale strip map showing the overall layout of the entire project and a copy of the entire format sheet would be helpful when a special design is requested.

Table No. 4-2
VERTICAL DIMENSIONS FOR OVERHEAD DIRECTIONAL SIGNS

Table No. 4-2
VERTICAL DIMENSIONS FOR OVERHEAD DIRECTIONAL SIGNS

| <i>Height in Millimeters</i> | <i>Signs with Arrow on End</i> | | | | | <i>Signs with Arrow Beneath</i> | | | | |
|--------------------------------------|--------------------------------|--|---|--|---|---------------------------------|--|---|--|---|
| | <i>Message</i> | <i>Message with Shield on line</i> | <i>Message with Shield on Line and Cardinal Direction</i> | <i>Message with Shield Above</i> | <i>Message with Shield Above and Cardinal Direction</i> | <i>Message</i> | <i>Message with Shield on Line</i> | <i>Message with Shield on Line and Cardinal Direction</i> | <i>Message with Shield Above</i> | <i>Message with Shield Above and Cardinal Direction</i> |
| 1270 mm..... | 1 Line | | | | | | | | | |
| 1778 mm | 2 Lines | 1 Line | | | | 1 Line | 1 Line | | | |
| | | 2 Lines | | | | | | | | |
| 2032 mm | | | 1 Line | 1 Line | | | | | | |
| | | | 2 Lines | | | | | | | |
| 2286 mm | | | | | | | | 1 Line | | |
| 2540 mm | | | | | 1 Line | 2 Lines | 2 Lines | | | |
| 2794 mm | | | | 2 Lines | | | | 2 Lines | 1 Line | |
| 3048 mm | | | | | 2 Lines | | | | | 1 Line |

Lines refer to number of messages. Exit distances are placed on line with arrows and do not require any revision in vertical dimensions.
Above table to be used for 400 mm U. C. and 300 mm L. C. letter size only.

4-04.24 POLICY FOR INDIVIDUAL GUIDE SIGNS

POLICY

DESTINATION w/MILEAGE SIGN

Federal Sign No.

G1



WHITE ON GREEN

G5



WHITE ON GREEN

The Destination (w/Mileage) sign (G1) may be used at conventional highway intersections and in freeway interchange areas off the freeway to guide motorists to their destinations.

The G1 sign should be located in an appropriate position, generally not more than 60 m in advance of the intersection.

Typical use of the G1 sign at conventional highway intersections is shown in Figure 4-7, Typical Directional Signing.

See Section 4-04.13, Destination Signing, for additional details.

The Following minimum letter sizes shall be used for G1 signs:

- 200 mm Upper Case and 150 mm Lower Case letters
 1. In freeway interchange areas off the freeway where traffic speeds and volumes are high.
 2. On expressways.
 3. On conventional highways where speeds are high and the greater legibility is warranted.
- 150 mm U. C. and 115 mm L. C. letters
 1. On conventional highways.
 2. In interchange areas off the freeway where speeds are relatively low and visibility is limited.
- 100 mm Series C letters
 1. On minor low volume, low speed highways.
 2. On city streets where space limitations will not permit the use of a larger sign.

DESTINATION SIGN

The Distance Destination sign (G5) should be used on the main traveled way to show:

- a. The next town, city or route junction.
- b. The next county seat, route junction or important city.
- c. The terminus of the route or major destination.

The G5 sign should be placed facing outbound traffic immediately beyond cities, towns, and principal highway junctions and at approximate 16 km intervals. When the destinations are unchanged, the signs should not be closer than 8 km apart.

See Section 4-04.14, Information Signs, for additional details.

The following minimum letter sizes shall be used for G5 signs:

- 338 mm U. C. and 250 mm L. C. letters
On freeways where adequate space is available.

G7



WHITE ON GREEN

G8



WHITE ON GREEN

G8-22



WHITE ON GREEN

POLICY

- 271 mm U. C. and 200 mm L. C. letters
On freeways where space is limited and on expressways.
- 200 mm U. C. and 150 mm L. C. letters
On conventional highways where speeds are high and greater legibility is warranted.
- 150 mm U. C. and 115 mm L. C. letters
On conventional low volume roads.
On those sections of city streets where severe space limitations exist, a smaller G5 with 125 mm Series D capital letters may be used.

D3

STREET NAME SIGN

The Street Name sign (G7) shall be placed, clearly visible to traffic approaching from all directions, at all signal-controlled intersections on streets and highways (See CVC 21366). The sign should also be used at or in advance of named crossroads on multilane highways. The sign should also be used in advance of all except minor intersections on two-lane highways.

See Section 4-04.4, Placement of Street Name Signs, for additional details.

The following minimum letter sizes shall be used for G7 signs:

- 200 mm U. C. and 150 mm L. C letters
 1. On Expressways
 2. On conventional highways where speeds are high and the greater legibility is essential.
- 150 mm U. C. and 115 mm L. C. letters
On conventional highways, and for mast arm mounting.
- 100 mm U. C.

DESTINATION AND STREET NAME w/ARROW SIGNS

The Destination and Street Name (w/Arrow) signs (G8) may be used in advance of conventional highway intersections and in freeway interchange areas. The sign may be placed 75 m to 225 m in advance of an intersection in the standard position on the right.

The following minimum letter sizes shall be used for G8 signs:

- 200 mm U. C. and 150 mm L. C. letters
On conventional highways where space permits and normally in major freeway interchange areas off the freeway.

D1-2

G9-2



WHITE ON GREEN

G9-5



WHITE ON GREEN

POLICY

- 150 mm U. C. and 115 mm L. C. letters
On conventional highways and in freeway interchange areas where space limitations, viewing distance, low speed or low volumes exist and on minor highways.
- 100 mm Series C letters
On minor low volume, low speed highways.
Typical use of the G8 sign in interchange areas is shown in Figure 4-10 and 4-13, Typical Freeway Signing.

CITY LIMIT / UNINCORPORATED COMMUNITY SIGN

The City Limit/Unincorporated Community sign (G9-2, G9-5) shall be used to mark the limits of cities and to identify unincorporated towns.

The G9-5 sign shall be placed on the right, at the outer city limits of incorporated cities, facing traffic entering the named city. The G9-2 sign shall be used similarly for unincorporated towns.

The population may be obtained from:

- Federal census
- California Dept. of Finance
- County Board of Supervisors
- County Planning Commission

The elevation shown may be that of the courthouse, post office, railroad station, or bench mark in the central district of the city.

See Section 101.1 of the Streets and Highways Code, which makes these changes mandatory, and Section 101.2, which provides that the Department of Transportation, under certain conditions, shall replace any city limit signs.

The following minimum letter sizes shall be used for the first line on G9 signs:

- 271 mm U. C. and 200 mm L. C., 200 mm U. C. and 150 mm L. C. letters
On freeways, expressways and multilane highways.
- 150 mm U. C. and 115 mm L. C. letters
On two-lane roads in developed areas on city street sections.

Where it is difficult to use standard size signs because of space limitations, it may be necessary to use the next smaller size sign.

- 125 mm Series D capital letters
On city streets where there is severe space limitations.

If a city or community desires to install a distinctive type city limits or "Welcome" sign on conventional highways at its city limits in place of the standard G9 sign, the following criteria should be followed:

POLICY

1. The signs shall be installed by local authorities at no expense to the State, and an approved encroachment permit will be obtained prior to installation. They shall be maintained by the permittee to the satisfaction of the permitter.
2. Such signs shall be installed in accordance with current Department practices.
3. Signs shall be of reasonable size and proportional to other guide signs in the area.
4. Signs shall be positioned so they do not obstruct the view of official traffic control devices.
5. No moving or flashing displays or advertising of any kind will be permitted.
6. No sign shall encroach over the highway.
7. Political jurisdiction logos may be displayed on the city limit signs, but the predominant characteristics of the sign will be white legend on a green rectangular shaped background. Distinctive type city limit signs not conforming to the above may remain in place until normal replacement is required.

See "Approved Sign Specification Sheets" publication for Population Overlay plates and Numeral Overlays.

COUNTY LINE SIGN

The County Line sign (G10) should be used at the point where the county boundary line crosses the State highway. The sign should be placed on the right facing traffic entering the named county.

The following minimum letter sizes shall be used for the first and second lines on G10 signs:

- 200 mm U. C. and 150 mm L. C. letters - 150 mm caps
On freeways .
- 150 mm U. C. and 115 mm L. C. letters - 100 mm caps
On all other highways.

G10



WHITE ON GREEN

G10B



GOLD, YELLOW, GREEN, BLUE

WELCOME TO CALIFORNIA SIGN

The Welcome to California sign (G10B) shall be used to indicate the California State line. The sign should be placed on the right near the State boundary facing traffic entering the State.

POLICY

G11-3



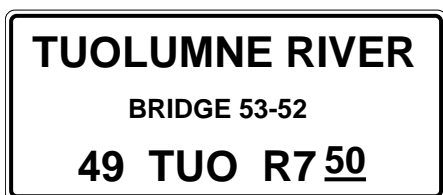
WHITE ON GREEN

RIVER NAME SIGNS

The River Name sign (G11) may be used to identify bridges or structures across rivers and creeks and provide motorist orientation that is not otherwise included in the primary signing.

The G11-3 sign should be used on freeways to identify major river crossings.

G11-1



BLACK ON WHITE

G11-4



BLACK ON WHITE

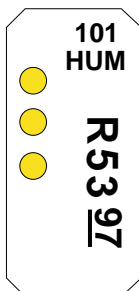
The G11-4 sign is normally used at major rivers or creeks. It should be placed at each end of a structure, with the bottom of the sign even with the top of the bridge rail.

The sign includes the bridge name and number, county, route and post mile along with a Type L object marker indication.

Other variations of the sign are available, including the G11-1 and G11-6, a Type L object marker with only the county, route and postmile shown.

The official name and number of structures on State highways are determined by the Office of Structures Design.

G11-6



BLACK ON WHITE

G13-1**BROWN ON CREAM****G13-2****BROWN ON CREAM****G14****BROWN ON CREAM****G15****CREAM ON BROWN****POLICY****HISTORICAL LANDMARK SIGNS**

The Historical Landmark sign (G13-1) should be used on conventional highways to guide motorists by the most direct route to registered historical landmarks which are located within 8 km of the highway. The sign should be placed not more than 45 m in advance of the intersection on the right.

The G13-2 sign should be used on freeways to guide motorists to the original 21 California Missions and other important well-known historical landmarks. See Section 123.5 of the Streets and Highways Code for signing to Missions. The G13-2 sign should also be used on freeways to guide motorists to historical landmarks that have a profound impact on the history of California as a whole. White on green signs (G86) may be used on freeways where the landmark generates considerable traffic. Such signs shall be followed up by standard historical landmark signs on the next exit ramps.

See Section 4-04.17 for additional information. The Advance Historical Landmark sign (G14) should be used in advance of a registered historical landmark monument or plaque within or adjacent to the right of way.

The sign should be placed 150 m to 450 m in advance of the landmark or monument on the right, depending on the approach speed of traffic.

HISTORICAL INTEREST SIGN

The Point Of Historical Interest sign (G15) may be used to direct the public to a historical point of interest that has been registered with the Office of Historic Preservation, Department of Parks and Recreation.

The sign may be used on the right on city streets or conventional rural highways. The sign shall not be used on freeways.

The sign is placed when requested by local authorities.

G16



WHITE ON GREEN

G17



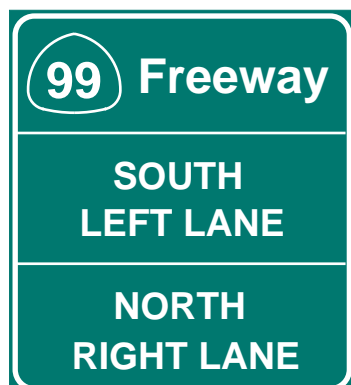
WHITE ON GREEN

G20



WHITE ON GREEN

G21



WHITE ON GREEN

POLICY

MOUNTAIN PASS ELEVATION SIGN

The Mountain Pass Elevation sign (G16) may be used at the summit to inform the public of a mountain pass name and elevation.

The sign should be placed facing traffic in each direction on the right. The following minimum letter sizes shall be used:

- 200 mm U. C. and 150 mm L. C. letters - 150 mm caps
On freeways and expressways
- 100 mm Series D letters
On all other highways

ELEVATION SIGN

The Elevation ____ Ft (G17) may be used to inform motorists of changes in elevation. Feet will be shown in multiples of 1,000 feet above sea level, and multiples of 100 feet below sea level.

The sign should be placed facing traffic in each direction on the right.

The following minimum letter sizes shall be used:

- 150 mm capital - 200 mm capital
On freeways and expressways
- 100 mm capital - 125 mm capital
On all other highways

LANE DESIGNATION SIGN

The Lane Designation sign (G20) is one of several signs (G21, G77 and G77A) that may be used on multilane cross streets approaching a freeway interchange to indicate the proper lane for the desired freeway entrance.

The appropriate sign shall be provided on multilane cross streets to properly position traffic for freeway entrances. The proper lane for each movement shall be indicated far enough in advance of the point where the turn must be made to give the motorist time to enter that lane, particularly where there are overcrossings that hide the entrance from an approach.

The principal message shall be route and cardinal direction. Names of major or control cities may be used in addition to cardinal directions

See Section 4-04.7 for additional details.

LEFT AND RIGHT DESIGNATION SIGN

The Left and Right Lane Designation sign (G21) should be used on multilane cross streets approaching a freeway interchange to indicate the proper lane for the desired movement. Names of major or control cities may be used in lieu of cardinal directions.

A stacked format is available for use where space is limited. When stacked format is used, the top message

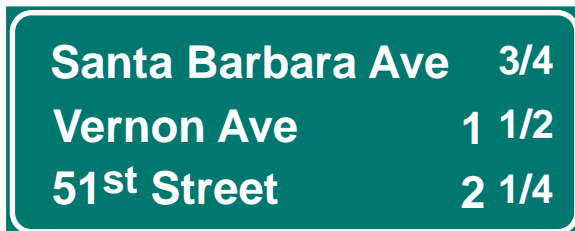
G22



WHITE ON GREEN

G23 SERIES

E8-1



WHITE ON GREEN

G24 SERIES



WHITE ON GREEN

POLICY

should indicate the first freeway entrance.

The sign should be placed far enough in advance of the first freeway entrance to permit a motorist to get into the proper lane.

See Section 4-04.7 for additional details.

Typical use of the G21 sign is shown in Figures 4-11 and 4-12, "Typical Freeway Signing".

TURNOFF SIGN

The Turnoff sign (G22) may be used to give advance notice of a turnoff on expressways and high speed two-lane roads.

The sign is not used on freeways.

The sign should be placed on the right approximately 0.4 km to 0.8 km in advance of the turnoff.

When appropriate, RIGHT TURN or LEFT TURN may be used in lieu of TURNOFF. A route shield may be used on the sign.

INTERCHANGE SEQUENCE SIGN

The Interchange Sequence sign (G23 Series) may be used on metropolitan freeways to show the distance to the next three exits. The sign may also be used on rural freeways where there are closely spaced interchanges.

The sign may include route shields where appropriate.

The sign may include four lines where two exit names are required for a single interchange.

The sign should be placed on the right between interchanges. It may be placed in the median where there is a median barrier.

See Figures 4-11 through 4-13, Typical Freeway Signing, for use of this sign.

LANE ASSIGNMENT SIGN

The Lane Assignment sign (G24 Series) should be used at and in advance of branch connections between freeways or major sign routes and where a through message or lane assignment is required.

Appropriate down arrows may be used. The sign should be placed overhead and centered over the lane(s) to which the sign applies. See Figures 4-13 and 4-14, Typical Freeway Signing, for use of the sign.

G25



YELLOW ON BLUE

M1-6

COUNTY ROUTE MARKER

The County Route Marker (G25) shall be used to direct motorists to county numbered routes that intersect with State highways.

Signing on a county route will be provided by the county having jurisdiction.

An appropriate yellow arrow on a blue background (G34) may be used with the marker. The marker should be placed on the right.

G26



BLACK ON WHITE

M1-4

G27



WHITE ON RED AND BLUE

M1-1

G28



WHITE ON GREEN

STATE AND FEDERAL ROUTE SHIELD SIGNS

The Route Shield signs (G26, G27 and G28) shall be used to guide motorists to and along numbered State highways.

The appropriate color Cardinal Direction signs (G47 through G50) and Arrow signs (G33 through G46) may be used in conjunction with Route Shield signs.

The larger shields shall be used on freeways and expressways. The smaller shields may be used on conventional highways, in interchange areas, at entrances to State highways and for all trailblazer assemblies. The sign should be placed on the right.

On freeways, shields shall be installed beyond the end of the acceleration lane of all entrances to freeway to freeway interchanges and at intermediate locations at 4.8 km to 8 km intervals.

On conventional highways, they should be installed at important urban and rural intersections and at intermediate locations at 4.8 km to 8 km intervals in rural areas.

See Section 4-04.8, "Placement of Route Shields", for additional details.

POLICY

G30



GOLD, BLUE, GREEN AND WHITE

G30A



G30B



GOLD, BLUE, GREEN AND WHITE

G30C



G30D



WHITE ON BLUE

G31



WHITE ON GREEN

M1-2

SCENIC ROUTE SIGN SERIES

The Scenic Route sign (G30) shall be used to identify routes which have been designated as official State Scenic Highways. The sign shall be installed on the right at the beginning of the scenic route.

The G30A and G30B signs, when used, should be used on State and county routes, respectively, and placed below and on the same post with the route shield signs. The Begin plate (G30C) may be placed above the Scenic Route sign, and the End plate (G30D) may be placed below the scenic route signs.

INTERSTATE BUSINESS LOOP ROUTE SHIELD

The Interstate Business Loop route shield (G31) may be used to advise motorists of an interstate business loop.

The sign should be installed on the right on the loop. It should not be placed on the interstate route itself. The Route ___ Business plate (G76) should be used for advance signing on the interstate route.

G33



G33-1



BLACK ON WHITE, WHITE ON GREEN,
WHITE ON BLUE or WHITE ON BROWN

SERVICE SYMBOL SIGN ARROW PLATES

The Service Symbol Sign Arrow plates (G33), in appropriate color, may be used as a directional arrow with the Service Symbol Sign.

The plate should be placed beneath and on the same post as the symbol sign.

POLICY

G34 / M6-1



G35 / M6-4



G36 / M6-3



G38 / M6-6



G44 / M6-2



G45 / M5-1



BLACK ON WHITE, WHITE ON GREEN,
WHITE ON BLUE or YELLOW ON BLUE

G47 / M3-1



G48 / M3-3



G49 / M3-2



G50 / M3-4



BLACK ON WHITE, WHITE ON GREEN
or WHITE ON BLUE

G51



M4-7

BLACK ON WHITE, WHITE ON GREEN
or WHITE ON BLUE

G55



M4-3

BLACK ON WHITE or WHITE ON GREEN

ROUTE SHIELD ARROW PLATES

The Route Shield Arrow plates (G34 through G46), in appropriate color and direction, may be used as a directional arrow with Route Shields (G26, G27, G28) or County Route markers (G25).

The plate should be placed below the route shield. The route shield and appropriate plate should be placed in advance of intersections to indicate the direction of the numbered route.

CARDINAL DIRECTION PLATES

The Cardinal Direction plates (G47 through G50), in appropriate color, may be used with Route Shields (G26, G27, G28) or County Route markers (G25), to indicate the general direction of the route. The plate should be placed above or to the right of the route shield sign for most installations. The plate should be placed below the route shield sign when used in freeway entrance sign packages. The route shield and cardinal direction plate should be placed beyond major intersections and beyond outer limits of cities or towns.

TEMPORARY PLATE

The Temporary plate (G51), in appropriate color, may be used to mark, for an interim period, a section of highway connecting completed portions of a route that is not planned as a permanent part of a regular numbered route.

The plate should be placed above the Route Shield signs (G26, G27 and G28) and above the cardinal direction plate if used.

BUSINESS PLATE

The Business plate (G55), in appropriate color, may be used to indicate an alternate route that branches from a U. S. or State sign route, passes through the business district, and rejoins the route.

The plate should be placed above the Route Shield sign (G26 or G28).

The Interstate Business Loop sign (G31) should be used on an interstate business loop.

The Route ____ Business plate (G76) should be used for advance signing on U. S. or State sign routes.

POLICY

G56



M2-1

WHITE ON BLACK, WHITE ON GREEN,
WHITE ON BLUE or YELLOW ON BLUE

JUNCTION PLATE

The Junction plate (G56), in appropriate color, may be used to indicate a junction with a numbered route.

The sign shall be placed above the Route Shield signs (G26, G27 and G28).

G57



M4-6

BLACK ON WHITE, WHITE ON GREEN,
WHITE ON BLUE or YELLOW ON BLUE

END PLATE

The End Plate (G57), in appropriate color, may be used to indicate the end of an interstate, U. S. or State numbered route.

The sign shall be placed above the Route Shield signs (G26, G27 and G28) 90 m to 275 m in advance of the intersection.

G58



WHITE ON BLUE OR YELLOW ON BLUE

NEXT RIGHT PLATE

The Next Right plate (G58) may be used on expressways or conventional highways in conjunction with, and placed below, the county route marker (G25).

The Next Exit version of the sign may be used on freeways in conjunction with, and placed below, the county route marker (G25).

G59



M4-5

BLACK ON WHITE, WHITE ON GREEN, OR
WHITE ON BLUE

TO PLATE

The To plate (G59) may be used to supplement trail blazer Route Shield signs (G26, 27, 28) directing to freeways.

The plate should normally be placed above the route shield as shown in Figure 4-6, Trail Blazing To Freeways. The plate and route shield may also be used on overhead signs when necessary.

G60



D4-1

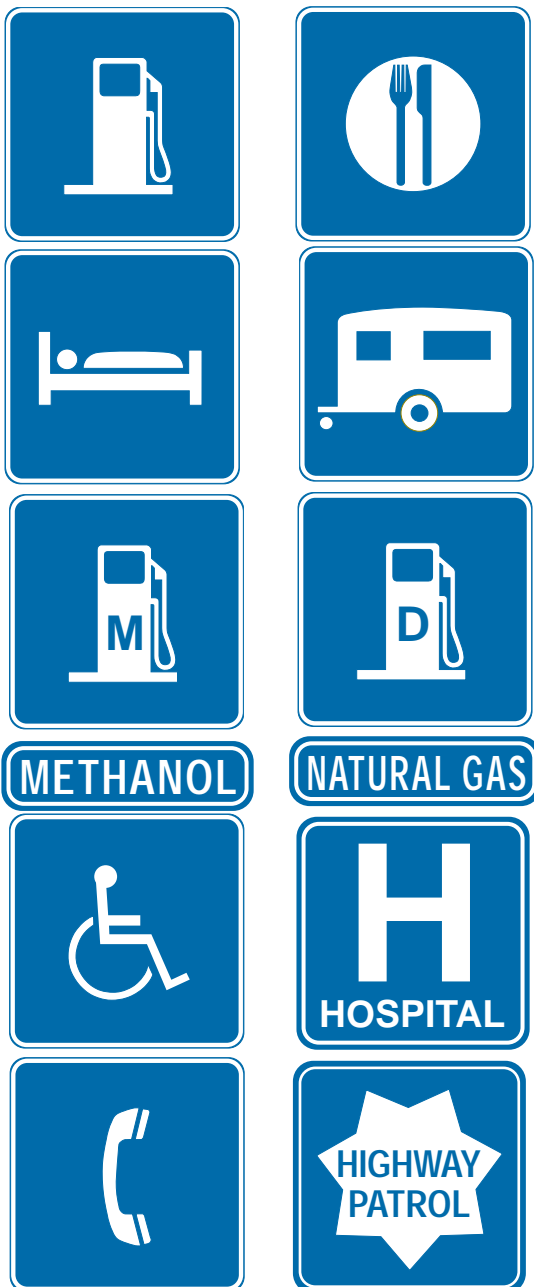
GREEN ON WHITE

POLICY

The Parking sign (G60), may be used to direct motorists to nearby public parking areas. The sign should be erected on major public thoroughfares at the nearest point of access to relieve local streets of motorists seeking parking.

The sign should be placed on the right and within three or four blocks of the parking area.

G66 SERIES (TYPICAL)



WHITE ON BLUE

The General Service Symbol signs (G66 Series), may be used in advance of an exit where roadside businesses (gas, food, lodging, campers) that serve the motorist are available. The use of these symbol signs shall conform to the warrants shown in Section 4-04.15, General Service Signing.

Symbol signs shall be used for all new installations of service signs and for all routine maintenance replacements.

The symbols should be placed below the first advance ground-mounted directional sign. If placed separately, the Next Exit sign should be used on freeway installations and the Next Right/Left sign should be used on conventional expressways and conventional highways.

Educational plates (G81 Series) and Arrow plates (G33) may be used with symbol signs.

POLICY

G66-55



G66-56



WHITE ON BLUE

G66-58



G66-59



G66-60



WHITE ON BLUE

G68



WHITE ON GREEN

STAA SERVICE SYMBOL SIGN

The STAA Service symbol sign (G66-55) shall be used in advance of an exit designated for large truck services. Follow-up signing may be used where applicable.

See 4-04.15, subsection 13. See CVC 35401.5(c)

STAA TERMINAL ACCESS SYMBOL SIGN

The STAA Terminal Access symbol sign (G66-56) shall be used in advance of an exit to a terminal access route. Follow-up signing shall be provided on the terminal access route.

See 4-04.15, subsection 13. See CVC 35401.5(d)

BRAKE CHECK AREA SIGNS

The Brake Check Area signs (G66-58, G66-59, G66-60) are provided to give notice to motorists, particularly truck operators, of an area provided to allow vehicle operators to stop and check the condition and adjustment of their brakes. These areas are generally provided just prior to a significant downgrade.

DIVIDED ROAD ____ MILES AHEAD SIGN

The Divided Road ____ Miles Ahead sign (G68) may be used to indicate the distance to the next section of divided highway.

The mileage shown should be to the nearest one-fourth mile, and to the nearest mile for distances over one mile.

The sign may be used on a two-lane highway in advance of a divided section of highway to encourage passing in the divided section.

G69



WHITE ON GREEN

G70



WHITE ON GREEN

G71



G72



WHITE ON BROWN

G76



WHITE ON GREEN

POLICY

PASSING LANE ____ MILES SIGN

The Passing Lane ____ Miles sign (G69) may be used on a two-lane conventional highway to convey to motorists that an additional lane is provided ahead for safely passing slower vehicles.

PASSING LANE AHEAD SIGN

The Passing Lane Ahead sign (G70) may be used to inform motorists on a two-lane highway that an additional lane is available ahead for passing slower traffic.

See the Passing Lane ____ Miles sign (G69).

See Section 6-02.2, "Passing and Truck Lanes" and Figure 6-18, "Signing And Marking Passing Lanes" for further details.

NATIONAL/STATE PARK SIGN

The National/State Park sign (G71), may be used to give advance notice of the turnoff to a National or State park. The sign name may be changed to include major recreational areas. The G72 sign may be used at the turnoff.

The message Next Right/Left may be used on the bottom line of the G71 sign on an expressway or conventional highway installation. The Next Exit message should be used on freeways.

See Section 4-04.17, Recreational And Historical signs, for additional details.

ROUTE ____ BUSINESS SIGN

The Route ____ Business sign (G76), may be used to direct motorists to an established U. S. or State numbered business route or an interstate business loop from a State highway. The plate should be installed below an advance ground-mounted directional sign. The sign may be placed separately in advance of the business route if it is necessary. A Next Right/Left message may be used on expressways and conventional highways. A Next Exit message may be used on freeways.

See Section 4-04.5, Establishing Business Routes, for additional details.

G77

WHITE ON GREEN

G77A

WHITE ON GREEN

G78

WHITE ON GREEN

G79

WHITE ON BLUE

G79A

WHITE ON BLUE

D5-1

POLICY**FREEWAY INTERCHANGE SIGN**

The Freeway Interchange sign (G77), should be used on two-lane cross streets at interchange areas to direct motorists from the cross street to the freeway ramp entrances.

The G77 sign may also be used at an exit ramp split to direct motorists to the cross street.

See Section 4-04.7 for additional details.

See Figures 4-10 through 4-13 for typical uses of the G77 sign.

FREEWAY INTERCHANGE SIGN for MULTILANE CROSS STREETS

The Freeway Interchange sign (G77A) should be used on multilane cross streets at interchange areas to direct motorists from the cross street to the freeway ramp entrances.

See Section 4-04.7 for additional details.

Typical use of the G77A sign is shown in Figures 4-11 and 4-12.

FREEWAY INTERCHANGE SIGN

The Freeway Interchange sign (G78) may be used to direct motorists to a single cardinal direction or destination. The G78 sign is ordinarily used as a follow-up of the G77 sign.

Typical uses of the G78 are shown in Figures 4-10 through 4-13, Typical Freeway Signing.

REST AREA ____ MILE SIGNS

The Rest Area ____ Mile sign (G79), may be used to give advance notice of a roadside rest area.

When several rest areas are provided (or planned) on the same route, generally within one hour's drive, a Next Rest ____ Mi plate (G79A) may be placed below the G79 sign. Until all of a planned series of roadside rests are constructed, it will be appropriate to sign to rest areas greater than one hour's drive ahead.

The Handicapped Symbol sign (G66-13) may be placed below the G79 sign for those rest areas that have full facilities for handicapped persons.

The sign is also available with the message, Vista Point.

The G79 sign should be placed on the right 1.6 km to 3.2 km in advance of the entrance to the rest area.

G80



D5-2

WHITE ON BLUE

G80A



WHITE ON BLUE

G81 SERIES



WHITE ON BLUE

POLICY

REST AREA SIGNS

The Rest Area action sign (G80) should be placed, as a supplement to the G79 sign, at the beginning of the deceleration lane leading to a roadside rest area.

The sign should be used in lieu of an Exit sign (G84) at roadside rests. The message Vista Point may be used where appropriate.

GENERAL SERVICE WORD-MESSAGE SIGNS/
PLATES

The General Service word-message signs/plates (G81 Series) may be used to give advance notice of service such as Highway Patrol, Water, Tourist Information And Carpool Or Vanpool Information available to motorists.

The G81 Series should normally be placed below a primary advance guide sign. Where it is not possible to place them below an existing guide sign, they may be used individually on conventional highways or at the terminus of exit ramps.

General Service Symbol signs (G66 Series) shall be used in lieu of word-message signs for all services that can be identified by approved symbols. Mixing the symbol and word-message sign, other than supplemental plates, should be avoided.

Supplemental plates (Hospital, Diesel, etc.) may be used below the G66 symbol.

G82

WHITE ON GREEN

G83

WHITE ON GREEN

G84

WHITE ON GREEN

G85 SERIES

WHITE ON GREEN

POLICY**FREEWAY SIGN**

The Freeway sign (G82) may be used to direct motorists to a freeway from a business route or from a community served by a single freeway.

The sign may be ordered with the freeway name and with vertical, diagonal, or horizontal arrows on either side of the message. Signs may be placed at appropriate locations to guide traffic to the freeway.

PRIMARY DIRECTIONAL SIGN

The Primary Directional sign (G83), shall be used on freeways to give motorists advance notice of the exit point to the principal destination served by the next interchange and the distance to that interchange.

Where the distance between interchanges is less than 3.2 km, the sign shall be placed at the first available location with the mileage adjusted to the nearest 0.4 km. At other than major interchanges, a single advance sign at the 1.6 km point is adequate.

A maximum of two place names or street names or destinations may be used in addition to route shields and cardinal directions. The word Exit (with distance) on the bottom line shall be used if the sign is the advance notice for an interchange with distance destinations. See Section 4-04.12 for additional information. See Figures 4-10 through 4-14 for typical use.

EXIT SIGN

The Exit sign (G84) shall be used at exit ramp gores on freeways to identify the exiting point. The arrow should be aligned to approximate the angle of departure. The sign will be preceded by at least two directional signs (G83 and G85) indicating the destination of the exit. The alternate message "Ramp" may be used where appropriate. The sign should be placed in the area between the main roadway and the exit ramp. See Figure 4-10 through 4-14 for typical use.

ACTION SIGNS

The Action sign (G85 Series) shall be used on freeways to direct to exit ramps. The sign repeats the route and destination shown on the Primary Directional sign (G83).

The sign is followed by the Exit sign (G84) in the gore nose.

The sign should be placed in the vicinity of the beginning of the deceleration lane of the exit ramp.

See Figures 4-10 through 4-14, "Typical Freeway Signing", for typical uses. Also see Section 4-02.6 for use of Lane Drop (W61) signs.

E5-1

G86 SERIES

WHITE ON GREEN

G87

WHITE ON GREEN

G90

WHITE ON BLUE

POLICY**SUPPLEMENTAL NEXT RIGHT/LEFT SIGNS**

The Supplemental Next Right/Left sign (G86 Series) may be used on expressways and conventional highways to indicate the proper lane to be used for a given destination. The Next Exit sign may be used on freeways. It is the intermediate sign in the primary signing sequence and may be omitted in low traffic interchanges.

The sign is normally placed between the G83 and the G85 signs.

The sign may be used as a supplemental sign in advance of an interchange when necessary to provide more destinations than can be shown on the primary signs. It may also be used in advance of interchanges between freeways to give notice of city streets reached by way of freeway connecting roads.

The sign may be omitted at major interchanges that are spaced 0.8 km or less apart, or when interchanges are 1.6 km or less apart and the Next Three Exits sign (G23) is used.

See Figures 4-10 through 4-14 for typical use.

NEXT ____ EXITS SIGN

The Next ____ Exits sign (G87), may be used in advance of named areas that are served by more than one exit.

The sign should be followed by primary signing at the most direct connection to the central area. Generally, the sign should be placed on the right in advance of the Primary Directional sign (G83) for the first of the numbered exits.

NEXT SERVICE ____ MILES SIGN

The Next Service ____ Miles sign (G90) may be used to inform motorists that the distance to the next point where services are available exceeds 24 km.

The plate is primarily intended for undeveloped areas to inform motorists that upon passing a given exit and no further services will be available for the distance stated on the sign.

The plate is ordinarily placed below the first advance ground mounted Primary Directional sign (G83).

G92

WHITE ON GREEN

G93**G93A****G93B**

WHITE ON GREEN

G93C

GREEN ON WHITE

G94

WHITE ON GREEN

POLICY**FREEWAY ENTRANCE SIGN**

The Freeway Entrance sign (G92), shall be used as a dual installation at the entrance ramp as near the diverge point between the entrance ramp and the intersecting roadway as practical. The freeway entrance package should include the G92 sign on the top followed by a route shield, cardinal direction and down diagonal arrow. The down diagonal arrow should point toward the entrance ramp pavement. The bottom of the lowest sign should be 0.6 m above the edge of the pavement.

See Section 4-05, Ramp Terminal Signing.

BIKE ROUTE SIGNS

The Bike Route signs (G93), may be used to mark bike routes, lanes, paths or bike parking, and may be used on the right along designated bike facilities. At turns, the sign shall be supplemented with G33 directional arrows. Special guide signs indicating high demand destinations (e.g., "to downtown") may be placed beneath the G93 sign.

The Begin and End plates (G93A and G93B) may be used to supplement the G93 sign.

The Bike Parking sign (G93C), may be used to identify bicycle parking at park and ride lots and should be used at other bicycle parking facilities. The sign is to be placed at or near the parking area or, in any case, where the sign can be easily seen by traffic on the adjacent street. The sign is not to be used for "trail-blazing", guiding bicyclists to a parking area.

AIRPORT SYMBOL SIGN

The Airport symbol sign (G94) may be used to direct motorists to airports that are publicly owned or operated or have certificated service and that are within 4.8 km of the highway. If there is more than a single airport in the area, a G8 or G86 sign may be used, with the name of the airport included.

See Section 4-04.13, Delineation Signing, for additional criteria.

The Airport supplemental plate (G94-2), may be used with the G94 symbol sign.

POLICY

G95



WHITE ON GREEN

G95A



WHITE ON GREEN

G95B



WHITE ON GREEN

PARK AND RIDE WORD-MESSAGE AND SYMBOL SIGNS

The Park & Ride sign (G95), may be used where it is desirable to direct motorists to park and ride facilities.

The G95 sign may be used on city streets, county roads, freeway off-ramps, frontage roads, and State highways (except freeways and expressways) for direction to ridesharing parking lots.

The 600 mm x 750 mm size may be used on city streets.

The 750 mm x 900 mm size may be used on freeway off-ramps and frontage roads.

The 900 mm x 1200 mm size may be used on State highways (except freeways and expressways) and county roads.

General Notes (applies to G95, G95A and G95B signs):

1. If both transit and carpool parking are available, the local transit logo or symbol should be shown on the left of the standard carpool symbol. If transit parking only, the local transit symbol or logo should be used in lieu of the carpool symbol.
2. Existing Park & Ride or similar ridesharing signs may remain in place until routine maintenance is required, or wherever they have caused confusion. Consideration should be given to replacing a few existing signs where new signs are being installed to maintain continuity.

The G95A sign may be used below existing G83 signs on freeway and expressways for direction to ridesharing parking lots.

The 2450 mm x 1050 mm size may be used where the facility is four-lane divided.

The 2750 mm x 1500 mm size may be used where the facility is six or more lanes divided.

The G95B sign may be used as a separate installation on freeways and expressways where it is not possible to use the G95A. The 2450 mm x 1500 mm size may be used where the facility is four-lane divided.

The 2750 mm x 1700 mm size may be used where the facility is six or more lanes divided.

POLICY

G96



WHITE ON GREEN

LIGHT RAIL SYMBOL SIGN

The Light Rail symbol sign (G96), may be used to direct motorists to a light rail facility and to identify boarding points for the facility.

G96A



WHITE ON GREEN

TROLLEY SUPPLEMENTAL PLATE

The Trolley supplemental plate (G96A), when used, shall be placed below the G96 symbol sign. An alternate message, such as Light Rail, etc., may be used to coincide with local terminology.

G97



WHITE ON GREEN

I-7

RAIL STATION SYMBOL SIGN

The Rail Station symbol sign (G97) may be used to direct motorists to a rail station facility.

G97A-1

G97A-2



WHITE ON GREEN

AMTRAK AND CALTRAIN SUPPLEMENTAL PLATES

The Amtrak supplemental plate (G97A-1) and the Caltrain supplemental plate (G97A-2), shall be used for all new installations identifying Amtrak or Caltrain facilities.

POLICY

SERVICE AND RECREATIONAL AREA SYMBOL SIGNS

G200 SERIES

G200-3



RG-010

G200-4



RG-190

G200-6



RG-140

G200-7



RG-120

WHITE ON BROWN

The Service and Recreational Area symbol signs (G200 Series) may be used in advance of an exit where roadside businesses are available and to give notice of various recreational facilities available to motorists in rural areas. The use of these symbol signs shall conform to the warrants shown in Section 4-04.15, General Service Signing, and Section 4-04.17, Recreational and Historic Signs.

The symbols should be placed below the first ground-mounted advance directional sign. If the G200 signs are placed separately, the Next Exit message should be used on freeway installations and the Next Right/Left message used on expressways and conventional highways. The appropriate educational plate may be used where it is deemed necessary.

Approved symbol signs shall be used for all new installations of service signs and for all routine maintenance replacements.

AUTOMOBILE SYMBOL SIGN

The Automobile symbol sign (G200-3), indicates that automobiles may use the signed facility within a recreation area. This sign is not to be used on State highways.

TRUCK SYMBOL SIGN

The Truck symbol sign (G200-4), indicates that trucks may use the signed facility within a recreation area. This sign is not to be used on State highways.

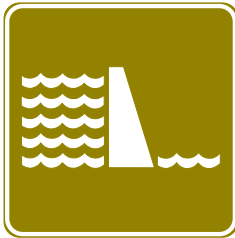
LOOKOUT TOWER SYMBOL SIGN

The Lookout Tower symbol sign (G200-6), may be used for lookout facilities that are publicly-owned, within 4.8 km of the highway, and open for visitors at least 8 hours per day, 180 days per year. Follow up signs, where required, must be installed by the local authority having jurisdiction in the area.

LIGHTHOUSE SYMBOL SIGN

The Lighthouse symbol sign (G200-7), may be used for lighthouse facilities that are within 4.8 km of the highway and open for visitors at least 8 hours per day, 180 days per year.

POLICY

G200-9*RG-030***DAM SYMBOL SIGN**

The Dam symbol sign (G200-9), may be used to indicate dams, located within 1.6 km of the highway, that have recreational activities with parking, water access, power plant tours and picnicking, which do not meet warrants for other recreational symbols.

G200-10*RG-090* **FISH HATCHERY SYMBOL SIGN**

The Fish Hatchery symbol sign (G200-10), may be used to indicate publicly administered hatcheries that are within 4.8 km of the highway and open for visitors at least 8 hours per day, 180 days per year.

G200-11*RG-040* **DEER VIEWING AREA SYMBOL SIGN**

The Deer Viewing Area symbol sign (G200-11), may be placed to indicate an area which is determined by the Department of Fish and Game to be particularly well suited for viewing deer and other wild life. This area should have adequate parking and be within 1.6 km of the highway, via a well maintained road.

G200-13*RG-050***DRINKING WATER SYMBOL SIGN**

The Drinking Water symbol sign (G200-13), may be used to indicate free public drinking water within 0.4 km of the highway where no other publicly accessible drinking water is available within 16 km.

G200-14*RG-100***INFORMATION SYMBOL SIGN**

The Information symbol sign (G200-14), may be used to indicate publicly-operated informational facilities located within 1.6 km of the highway and open all year.

WHITE ON BROWN

POLICY

G200-15*RG-170***RANGER STATION SYMBOL SIGN**

The Ranger Station symbol sign (G200-15), may be used for public agency ranger stations that are within 1.6 km of the highway and open all year.

G200-18*D9-9***LODGING SYMBOL SIGN**

The Lodging symbol sign (G200-18), may be used to indicate lodging facilities in public recreation areas which meet the criteria for General Service Series lodging signs (G66-7). On State highways, only the G66-7 is used, where appropriate, to sign to lodging facilities.

G200-19*RM-050***FOOD SERVICE SYMBOL SIGN**

The Food Service symbol sign (G200-19), may be used to sign for food service facilities in public recreation areas which meet the criteria for General Service Series food signs (G66-4). On State highways, only the G66-4 is used, where appropriate, to sign for food service facilities.

G200-20*RM-080***GROCERY STORE SYMBOL SIGN**

The Grocery Store symbol sign (G200-20), may be used within public recreation areas for facilities within 1.6 km of the highway that provide standard grocery items such as eggs, bread, milk and fruit, provided there are no other similar facilities within 16 km. Services must be available at least 12 hours per day.

G200-25*D9-1***TELEPHONE SYMBOL SIGN**

The Telephone symbol sign (G200-25), may be used within public recreation areas where a public telephone is available 24 hours a day and it is located in a remote area where it is not expected. On State highways, only the G66-17 is used, where appropriate, to indicate the availability of a telephone.

WHITE ON BROWN

POLICY

G200-27*RM-100***MECHANIC SYMBOL SIGN**

The Mechanic symbol sign (G200-27) may be used to indicate facilities in public recreation areas with automotive repair capability. This sign is not to be used on State highways.

G200-28*D9-6***PHYSICALLY CHALLENGED SYMBOL SIGN**

The Physically Challenged symbol sign (G200-28), may be used in public recreation areas where paved ramps and rest room facilities accessible to, and usable by, the physically handicapped are provided. Only the G66-13 is to be used on State highways at other State facilities.

G200-29*RA-010***AIRPORT SYMBOL SIGN**

The Airport symbol sign (G200-29), may be used in public recreation areas to direct motorist to airports which meet the criteria specified for G94 signs. Only the G94 and G94-1 may be used on State highways to indicate nearby airports.

G200-32*RM-060***FUEL STATION SYMBOL SIGN**

The Fuel Station symbol sign (G200-32), may be used to indicate fuel stations in public recreation areas which meet the criteria for General Service Series fuel signs (G66-1). On State highways, only the G66-1 may be used where appropriate.

G200-33*RM-030***VEHICLE FERRY SYMBOL SIGN**

The Vehicle Ferry symbol sign (G200-33), may be used to indicate recreational ferry operations within 3.2 km of the highway.

WHITE ON BROWN

POLICY

G200-34

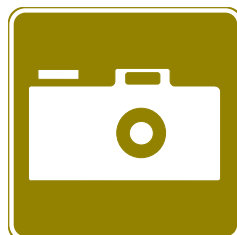


RA-080

PARKING SYMBOL SIGN

The Parking symbol sign (G200-34), may be used to indicate public parking facilities less than 0.4 km from a highway in recreation areas. Use should be restricted to locations outside of urbanized zones, where the G60 is inappropriate.

G200-36



RM-070

VIEWING AREA SYMBOL SIGN

The Viewing Area symbol sign (G200-36), may be used to direct motorists to public recreation area sites, located within 0.4 km of the highway, which have significant views. Such sites should have adequate parking and well maintained access. On freeways, the G80 Vista Point sign should be used where appropriate.

G200-38



D9-3

CAMPGROUND SYMBOL SIGN

The Campground symbol sign (G200-38), may be used for campsite facilities, either public or private, located within 4.8 km of the highway. A minimum of 15 campsites must be provided. Water and sanitary facilities must be available, but not necessarily at each individual campsite. See the policy for the G91.

G200-40



D9-3a

TRAILER SITES SYMBOL SIGN

The Trailer Sites symbol sign (G200-40), may be used to indicate trailer site facilities within a public recreation area, located within 4.8 km of the highway. A minimum of 15 trailer sites must be provided. Water and sanitary facilities must be available.

G200-41



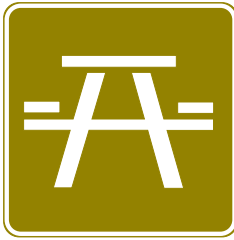
RM-160

TRAILER SANITARY STATION SYMBOL SIGN

The Trailer Sanitary Station symbol sign (G200-41), may be used to indicate dump stations where recreational vehicles may dispose of their holding tank waste. Station must be located within a public recreation area and within 1.6 km of the highway.

WHITE ON BROWN

POLICY

G200-44*D5-5a***PICNIC AREA SYMBOL SIGN**

The Picnic Area symbol sign (G200-44), may be used for picnic areas, either public or private, located within 1.6 km of the highway. A minimum of 10 sites with tables shall be provided. Water and sanitary facilities must be available.

G200-46*RS-040***CROSS COUNTRY SKIING SYMBOL SIGN**

The Cross Country Skiing symbol sign (G200-46), may be used to indicate cross country skiing facilities within 1.6 km of the highway. There should be sufficient parking to accommodate normal demand.

G200-47*RS-050***DOWNHILL SKIING SYMBOL SIGN**

The Downhill Skiing symbol sign (G200-47), may be used to indicate down hill skiing facilities located within 8 km of the highway.

G200-48*RS-020***SKI JUMPING SYMBOL SIGN**

The Ski Jumping symbol sign (G200-48), may be used to indicate ski jumping facilities within 8 km of the highway.

G200-49*RS-060***SLEDDING SYMBOL SIGN**

The Sledding symbol sign (G200-49), may be used to indicate sledding facilities within 1.6 km of the highway. There should be sufficient parking to accommodate normal demand.

WHITE ON BROWN

POLICY

G200-50*RS-010***ICE SKATING SYMBOL SIGN**

The Ice Skating symbol sign (G200-50), may be used to indicate ice skating facilities within 8 km of the highway.

G200-51*RS-030***SKI BOBBING SYMBOL SIGN**

The Ski Bobbing symbol sign (G200-51), may be used to indicate ski bobbing facilities within 1.6 km of the highway. There should be sufficient parking to accommodate normal demand.

G200-52*RS-070***SNOWMOBILING SYMBOL SIGN**

The Snowmobiling symbol sign (G200-52), may be used to indicate snowmobiling facilities within 1.6 km of the highway. There should be a paved loading area at any such facility which is at least 6 m wide (measured perpendicular to the traveled way) and sufficient parking to accommodate normal demand. Parking spaces should be sized for vehicles with small trailers.

G200-53*RS-060***MARINA SYMBOL SIGN**

The Marina symbol sign (G200-53), may be used to indicate an area where boats can be anchored and serviced within 4.8 km of the highway.

G200-54*RS-080***BOAT LAUNCHING SYMBOL SIGN**

The Boat Launching Ramp symbol sign (G200-54), may be used to indicate boat launching facilities, either public or private, located within 4.8 km of the highway.

WHITE ON BROWN

POLICY

G200-55*RW-070***MOTORBOATING SYMBOL SIGN**

The Motorboating symbol sign (G200-55), may be used to indicate areas where motorboating facilities and services are available within 4.8 km of the highway.

G200-56*RW-100***SAILBOATING SYMBOL SIGN**

The Sailboating symbol sign (G200-56), may be used to indicate areas where sailboating facilities and services are available within 4.8 km of the highway.

G200-57*RW-090***ROWBOATING SYMBOL SIGN**

The Rowboating symbol sign (G200-57), may be used to indicate areas where rowboating facilities and services are available within 4.8 km of the highway.

G200-58*RW-110***WATER SKIING SYMBOL SIGN**

The Water Skiing symbol sign (G200-58), may be used to indicate areas where waterskiing facilities and services are available within 4.8 km of the highway.

G200-59*RW-120***SURFING SYMBOL SIGN**

The Surfing symbol sign (G200-59), may be used to indicate areas suitable for surfing within 4.8 km of the highway. Adequate parking should also be available.

WHITE ON BROWN

POLICY

G200-60

*RW-040* **SCUBA DIVING SYMBOL SIGN**

The Scuba Diving symbol sign (G200-60), may be used to indicate areas suitable for scuba diving within 4.8 km of the highway.

G200-61

*RW-030***SWIMMING SYMBOL SIGN**

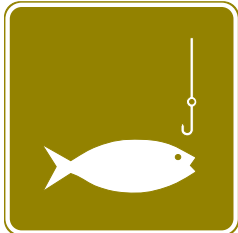
The Swimming symbol sign (G200-61), may be used to indicate a swimming facility within a recreational area.

G200-62

*RW-030***DIVING SYMBOL SIGN**

The Diving symbol sign (G200-62), may be used to indicate a diving facility within a recreational area.

G200-63

*RW-050***FISHING SYMBOL SIGN**

The Fishing symbol sign (G200-63), may be used to indicate a fishing area, either public or private, within 4.8 km of the highway.

G200-64

*RL-110***HORSE TRAIL SYMBOL SIGN**

The Horse Trail symbol sign (G200-64), may be used for identifying horse trails located within public recreation areas. The trailhead should be within 4.8 km of the highway.

WHITE ON BROWN

POLICY

G200-65*RL-150***TRAIL BIKE SYMBOL SIGN**

The Trail Bike symbol sign (G200-65), may be used to identify trail bike trails located within public recreation areas. The trailhead should be 4.8 km or less from the highway. The S12 sign should be used where the trail intersects the highway.

G200-66*RL-090***BICYCLE TRAIL SYMBOL SIGN**

The Bicycle Trail symbol sign (G200-66), may be used for identifying bicycle trails located within public recreation areas. On State highways, the R81 or the G93 Series signs should be used instead.

G200-67*RL-140***RECREATIONAL VEHICLE SYMBOL SIGN**

The Recreation Vehicle symbol sign (G200-67), may be used to identify recreation vehicle trails located within public recreation areas. The trailhead should be 4.8 km or less from the highway. For this application, the term "recreation vehicle" is synonymous with "off highway vehicle" (OHV), which includes vehicles with two or more wheels. The S12 (OHV Trail) sign should be used at points where off-highway vehicle trails intersect highways.

G200-68*RL-100***HIKING TRAIL SYMBOL SIGN**

The Hiking Trail symbol sign (G200-68), may be used for marked and maintained hiking trails. The trailhead must be within 1.6 km of the highway, with sufficient parking to accommodate normal demand.

G200-69*RL-050***PLAYGROUND SYMBOL SIGN**

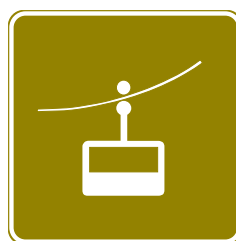
The Playground symbol sign (G200-69), may be used to identify playgrounds within a recreation area and not more than 1.6 km from the highway.

WHITE ON BROWN

POLICY

G200-70*RL-010***AMPHITHEATER SYMBOL SIGN**

The Amphitheater symbol sign (G200-70), may be used to identify an amphitheater facility within 1.6 km of the highway.

G200-71*RL-160***TRAMWAY SYMBOL SIGN**

The Tramway symbol sign (G200-71), may be used to identify recreational tramways or gondolas that provide year-round service and are located within 8 km of the highway.

G200-77*RS-090***WINTER RECREATION AREA SYMBOL SIGN**

The Winter Recreation Area symbol sign (G200-77), may be used to indicate a winter recreation area within 1.6 km of the highway when other recreation symbols are not appropriate. Sufficient parking facilities should be provided.

G200-78*RS-080***SNOWSHOEING SYMBOL SIGN**

The Snowshoeing symbol sign (G200-78), may be used to indicate an area within 1.6 km of the highway where special facilities or services are available for snowshoeing. Sufficient parking facilities should be provided.

G200-79*RW-020***CANOEING SYMBOL SIGN**

The Canoeing symbol sign (G200-79), may be used to indicate where canoeing facilities and services are available within 4.8 km of the highway.

WHITE ON BROWN

TABLE 4-3
DIE-CUT and SILK SCREEN LETTER SPECIFICATIONS in terms of LETTER HEIGHT

| UPPER CASE LETTER WIDTH | | | | | | |
|-------------------------|---------------|---------|---------|---------|----------|----------|
| Letter | Letter Series | | | | | |
| | A | B | C | D | E | F |
| A | .61 x H | .71 x H | .82 x H | .92 x H | 1.02 x H | 1.12 x H |
| B,D | .49 x H | .57 x H | .65 x H | .73 x H | .81 x H | .89 x H |
| C,G | .48 x H | .56 x H | .64 x H | .72 x H | .80 x H | .88 x H |
| E,J,L | .46 x H | .54 x H | .62 x H | .69 x H | .77 x H | .85 x H |
| F | .44 x H | .52 x H | .59 x H | .67 x H | .74 x H | .81 x H |
| H,P,R,S,Z | .49 x H | .57 x H | .66 x H | .74 x H | .82 x H | .90 x H |
| I | .12 x H | .14 x H | .16 x H | .18 x H | .20 x H | .22 x H |
| K,N,O,Q | .50 x H | .59 x H | .67 x H | .76 x H | .84 x H | .92 x H |
| M | .62 x H | .73 x H | .83 x H | .94 x H | 1.04 x H | 1.14 x H |
| T | .45 x H | .53 x H | .60 x H | .68 x H | .75 x H | .83 x H |
| U | .50 x H | .58 x H | .66 x H | .75 x H | .83 x H | .91 x H |
| V | .55 x H | .64 x H | .74 x H | .83 x H | .92 x H | 1.01 x H |
| W | .65 x H | .76 x H | .86 x H | .97 x H | 1.08 x H | 1.19 x H |
| X,Y | .61 x H | .71 x H | .81 x H | .91 x H | 1.01 x H | 1.11 x H |
| 1 | .20 x H | .22 x H | .24 x H | .27 x H | .30 x H | .13 x H |
| 2,3,5,6,7,8,9 | .51 x H | .56 x H | .62 x H | .69 x H | .77 x H | .85 x H |
| 4 | .56 x H | .63 x H | .70 x H | .77 x H | .86 x H | .95 x H |
| 0 | .52 x H | .58 x H | .65 x H | .72 x H | .80 x H | .88 x H |

| LOWER CASE LETTER WIDTH | | | | | | |
|-------------------------|---------------|---------|----------|----------|----------|----------|
| Letter | Letter Series | | | | | |
| | A | B | C | D | E | F |
| a c e g n u | .46 x H | .54 x H | .63 x H | .73 x H | .85 x H | .99 x H |
| b q | .47 x H | .55 x H | .64 x H | .74 x H | .86 x H | 1.00 x H |
| d h p | .45 x H | .53 x H | .62 x H | .72 x H | .84 x H | .98 x H |
| f | .30 x H | .35 x H | .41 x H | .47 x H | .55 x H | .64 x H |
| i l | .14 x H | .16 x H | .18 x H | .21 x H | .25 x H | .29 x H |
| j | .26 x H | .30 x H | .35 x H | .40 x H | .47 x H | .55 x H |
| k s | .56 x H | .66 x H | .76 x H | .80 x H | .83 x H | .97 x H |
| m | .77 x H | .90 x H | 1.05 x H | 1.22 x H | 1.42 x H | 1.65 x H |
| o | .48 x H | .55 x H | .65 x H | .76 x H | .88 x H | 1.02 x H |
| r | .40 x H | .46 x H | .54 x H | .62 x H | .65 x H | .76 x H |
| t | .36 x H | .42 x H | .49 x H | .58 x H | .67 x H | .78 x H |
| v | .55 x H | .64 x H | .75 x H | .87 x H | 1.01 x H | 1.18 x H |
| w | .72 x H | .84 x H | .97 x H | 1.13 x H | 1.32 x H | 1.54 x H |
| x | .63 x H | .73 x H | .76 x H | .88 x H | 1.03 x H | 1.20 x H |
| y | .58 x H | .68 x H | .79 x H | .92 x H | 1.07 x H | 1.25 x H |
| z | .47 x H | .55 x H | .64 x H | .75 x H | .87 x H | 1.01 x H |

TABLE 4-4

DIE-CUT and SILK SCREEN LETTER SPECIFICATIONS in terms of LETTER HEIGHT

| LETTER TO LETTER SPACING | | | | | | | | | | | | | | | | | |
|----------------------------------|------------------------------|-----------|-----------|-----------|-----------|-----------|------------------------------|-----------|-----------|-----------|-----------|-----------|------------------------------|-----------|-----------|-----------|-----------|
| Preceding Letters | Following Letters | | | | | | | | | | | | | | | | |
| | BDEFHIKLMNPRU | | | | | | CGOQSXY | | | | | | AJTVWY | | | | |
| | Letter Series A B C D E F | | | | | | Letter Series A B C D E F | | | | | | Letter Series A B C D E F | | | | |
| A L T V W T | .13 xH | .15 xH | .17 xH | .19 xH | .21 xH | .22 xH | .13 xH | .15 xH | .17 xH | .19 xH | .21 xH | .22 xH | .04 xH | .05 xH | .06 xH | .06 xH | .07 xH |
| B D G O P Q R S | .16 xH | .19 xH | .21 xH | .23 xH | .26 xH | .28 xH | .13 xH | .15 xH | .17 xH | .19 xH | .21 xH | .22 xH | .13 xH | .15 xH | .17 xH | .19 xH | .21 xH |
| C E F K X Z | .13 xH | .15 xH | .17 xH | .19 xH | .21 xH | .22 xH | .13 xH | .15 xH | .17 xH | .19 xH | .21 xH | .22 xH | .09 xH | .10 xH | .11 xH | .12 xH | .14 xH |
| H I J M N U | .16 xH | .19 xH | .21 xH | .23 xH | .26 xH | .28 xH | .16 xH | .19 xH | .21 xH | .23 xH | .26 xH | .28 xH | .13 xH | .15 xH | .11 xH | .19 xH | .21 xH |

| MISCELLANEOUS SPACING | | | | | | |
|--|---------------|---------|----------|----------|----------|----------|
| Spacing | Letter Series | | | | | |
| | A | B | C | D | E | F |
| Word to Word, End and Arrow to Word | .51 x H | .55 x H | .62 x H | .75 x H | .92 x H | 1.20 x H |
| Word to Mileage | .68 x H | .83 x H | 1.00 x H | 1.23 x H | 1.50 x H | 1.83 x H |
| Word to Route Shield | .52 x H | .61 x H | .72 x H | .85 x H | 1.00 x H | 1.18 x H |

TABLE 4-5A
REFLECTIVE DIE-CUT LETTER and DIGIT SPECIFICATIONS
in terms of LETTER HEIGHT

| SPACING BETWEEN UPPER and LOWER CASE LETTERS and DIGITS | | | | | |
|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Preceding Letter | Following Letter | | | | |
| | A V W x a c d e g o q 5 | B D E F H I K L M N P R U | b h i l m n p r u | C G O Q S z 2 4 8 9 0 | J |
| | Letter Series A B C D E F | Letter Series A B C D E F | Letter Series A B C D E F | Letter Series A B C D E F | Letter Series A B C D E F |
| A V W X c e 5 6 | .17 .20 .23 .27 .31 .36 x H | .25 .29 .34 .40 .46 .54 x H | .23 .27 .31 .36 .42 .49 x H | .17 .20 .24 .27 .32 .37 x H | .15 .17 .20 .23 .27 .31 x H |
| a d g h i j l m n q u | .22 .25 .30 .34 .40 .47 x H | .30 .35 .41 .47 .55 .64 x H | .28 .32 .38 .44 .51 .59 x H | .22 .26 .30 .35 .41 .48 x H | .20 .23 .27 .31 .36 .42 x H |
| B 3 | .19 .22 .26 .30 .35 .41 x H | .27 .32 .37 .43 .50 .58 x H | .25 .29 .34 .40 .46 .54 x H | .20 .23 .27 .31 .36 .42 x H | .17 .20 .23 .27 .31 .36 x H |
| b f k o p s | .16 .18 .21 .25 .29 .34 x H | .24 .28 .32 .38 .44 .51 x H | .22 .25 .30 .34 .40 .47 x H | .18 .21 .25 .29 .30 .35 x H | .14 .16 .18 .21 .25 .29 x H |
| C E G | .19 .22 .25 .29 .34 .40 x H | .27 .31 .36 .42 .46 .57 x H | .25 .29 .33 .39 .45 .52 x H | .19 .22 .26 .30 .35 .41 x H | .16 .19 .22 .26 .30 .35 x H |
| D O P Q R 8 9 0 | .17 .20 .24 .27 .32 .37 x H | .26 .30 .35 .40 .47 .55 x H | .23 .27 .32 .37 .43 .50 x H | .18 .21 .24 .28 .33 .38 x H | .15 .18 .21 .24 .28 .33 x H |
| F T x 7 | .15 .18 .21 .24 .28 .33 x H | .23 .27 .32 .37 .43 .50 x H | .21 .25 .29 .34 .39 .45 x H | .16 .18 .21 .25 .29 .34 x H | .13 .15 .18 .21 .24 .28 x H |
| H I J M N U 1 | .25 .29 .34 .40 .46 .54 x H | .33 .39 .45 .53 .61 .71 x H | .31 .36 .42 .49 .57 .66 x H | .26 .30 .35 .40 .47 .55 x H | .23 .27 .31 .36 .42 .49 x H |
| K L w | .15 .17 .20 .23 .27 .31 x H | .23 .27 .31 .36 .42 .49 x H | .20 .24 .28 .33 .38 .44 x H | .15 .18 .21 .24 .28 .33 x H | .13 .15 .17 .20 .23 .27 x H |
| r v y | .14 .16 .19 .22 .26 .30 x H | .22 .26 .30 .35 .41 .48 x H | .20 .23 .27 .32 .37 .43 x H | .15 .17 .20 .23 .27 .31 x H | .12 .14 .16 .19 .22 .26 x H |
| S T t z 2 | .16 .19 .22 .26 .30 .35 x H | .25 .29 .33 .39 .45 .52 x H | .22 .26 .30 .35 .41 .48 x H | .17 .20 .23 .27 .31 .36 x H | .14 .16 .19 .22 .26 .30 x H |
| Z | .23 .27 .32 .37 .43 .50 x H | .32 .37 .43 .50 .58 .68 x H | .29 .34 .40 .46 .54 .63 x H | .24 .28 .32 .38 .44 .51 x H | .21 .25 .29 .34 .39 .45 x H |
| 4 | .23 .21 .31 .36 .42 .49 x H | .31 .36 .42 .49 .57 .66 x H | .29 .34 .39 .46 .53 .62 x H | .23 .27 .32 .37 .43 .50 x H | .20 .24 .28 .33 .38 .44 x H |

TABLE 4-5B
REFLECTIVE DIE-CUT LETTER and DIGIT SPECIFICATIONS
in terms of LETTER HEIGHT

| UPPER and LOWER CASE LETTER and DIGIT SPACING | | | | | |
|---|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Preceding Letter | Following Letter | | | | |
| | j | T Y s t v w f 7 | x y | Z 1 | 3 6 |
| | Letter Series A B C D E F | Letter Series A B C D E F | Letter Series A B C D E F | Letter Series A B C D E F | Letter Series A B C D E F |
| A V W X c e 5 6 | .11 .13 .15 .17 .20 .23 x H | .16 .18 .21 .25 .29 .34 x H | .16 .19 .22 .26 .30 .35 x H | .23 .27 .32 .37 .43 .50 x H | .18 .21 .24 .28 .33 .38 x H |
| a d g h i j l m n q u | .16 .18 .21 .25 .29 .34 x H | .20 .24 .28 .33 .38 .44 x H | .21 .25 .29 .34 .39 .45 x H | .28 .33 .38 .45 .52 .60 x H | .23 .27 .31 .36 .42 .49 x H |
| B 3 | .13 .15 .18 .21 .24 .28 x H | .18 .21 .24 .28 .33 .38 x H | .19 .22 .25 .29 .34 .40 x H | .26 .30 .35 .40 .47 .55 x H | .20 .23 .27 .32 .37 .43 x H |
| b f k o p s | .10 .11 .13 .15 .18 .21 x H | .15 .17 .20 .23 .27 .31 x H | .15 .18 .21 .24 .28 .33 x H | .22 .26 .30 .35 .41 .48 x H | .17 .20 .23 .27 .31 .36 x H |
| C E G | .13 .15 .17 .20 .23 .27 x H | .17 .20 .24 .27 .32 .37 x H | .18 .21 .24 .28 .33 .38 x H | .25 .29 .34 .40 .46 .54 x H | .20 .23 .27 .31 .36 .42 x H |
| D O P Q R 8 9 0 | .11 .13 .15 .18 .21 .24 x H | .16 .19 .22 .26 .30 .35 x H | .17 .20 .23 .27 .31 .36 x H | .24 .28 .32 .38 .44 .51 x H | .19 .22 .25 .29 .34 .40 x H |
| F T x 7 | .09 .11 .13 .15 .17 .20 x H | .14 .16 .19 .22 .26 .30 x H | .15 .17 .20 .23 .27 .31 x H | .22 .25 .30 .34 .40 .47 x H | .16 .19 .22 .26 .30 .35 x H |
| H I J M N U 1 | .19 .22 .26 .30 .35 .41 x H | .24 .28 .32 .38 .44 .51 x H | .25 .29 .33 .39 .45 .52 x H | .32 .37 .43 .50 .58 .68 x H | .26 .30 .35 .41 .48 .56 x H |
| K L w | .09 .10 .12 .14 .16 .19 x H | .14 .16 .18 .21 .25 .29 x H | .14 .16 .19 .22 .26 .30 x H | .21 .25 .29 .34 .39 .45 x H | .16 .18 .21 .25 .29 .34 x H |
| r v y | .08 .10 .11 .13 .15 .17 x H | .13 .15 .18 .21 .24 .28 x H | .14 .16 .18 .21 .25 .29 x H | .21 .24 .28 .32 .38 .44 x H | .15 .18 .21 .24 .28 .33 x H |
| S T t z 2 | .10 .12 .14 .16 .19 .22 x H | .15 .18 .21 .24 .28 .33 x H | .16 .18 .21 .25 .29 .34 x H | .23 .27 .31 .36 .42 .49 x H | .17 .20 .24 .27 .32 .37 x H |
| z | .17 .20 .24 .27 .32 .37 x H | .22 .26 .30 .35 .41 .48 x H | .23 .27 .31 .36 .42 .49 x H | .30 .35 .41 .47 .55 .64 x H | .25 .29 .33 .39 .45 .52 x H |
| 4 | .17 .20 .23 .27 .31 .36 x H | .22 .25 .30 .34 .40 .47 x H | .22 .26 .30 .35 .41 .48 x H | .29 .34 .40 .46 .54 .63 x H | .24 .28 .32 .38 .44 .51 x H |

TABLE 4-6
REFLECTIVE BUTTON LETTER and DIGIT (Demountable Copy) SPECIFICATIONS
in terms of LETTER HEIGHT

| LETTER WIDTH | | | |
|--------------------|--------------|------------|------------|
| Letters and Digits | Letter Style | | |
| | Capitals | Upper Case | Lower Case |
| A | .90 x H | 1.02 x H | .86 x H |
| B D P | .76 x H | .81 x H | .86 x H |
| C G | .76 x H | .80 x H | .86 x H |
| E | .70 x H | .77 x H | .86 x H |
| F, T | .70 x H | .75 x H | .63 x H |
| H, K, N, S, U | .76 x H | .83 x H | .86 x H |
| I | .21 x H | .21 x H | .27 x H |
| J | .70 x H | .77 x H | .54 x H |
| L | .70 x H | .65 x H | .27 x H |
| M | .85 x H | 1.05 x H | 1.44 x H |
| O, Q | .80 x H | .84 x H | .86 x H |
| R | .76 x H | .83 x H | .69 x H |
| V | .83 x H | .92 x H | 1.06 x H |
| W | .98 x H | 1.08 x H | 1.38 x H |
| X | .78 x H | 1.02 x H | 1.06 x H |
| Y | .90 x H | 1.02 x H | 1.06 x H |
| Z | .76 x H | .83 x H | .94 x H |
| 1 | .31 x H | .35 x H | |
| 2 3 5 6 7 8 9 | .76 x H | .81 x H | |
| 4 | .83 x H | .90 x H | |
| 0 | .80 x H | .83 x H | |

| CAPITAL LETTER and DIGIT SPACING | | | | | | | | |
|----------------------------------|------------------|------------------------------------|-------------------------|---------|---------|---------|---------|---------|
| Preceding Letter | Following Letter | | | | | | | |
| | A W X 5 | B D E F H I K L M N P R U | C G O Q S 2 4 8 9 | J | T 7 | Y | Z 1 | 3 6 |
| A V W X 5 6 | .23 x H | .34 x H | .24 x H | .20 x H | .21 x H | .22 x H | .32 x H | .25 x H |
| B 3 | .26 x H | .37 x H | .27 x H | .23 x H | .24 x H | .25 x H | .35 x H | .28 x H |
| C E G | .25 x H | .36 x H | .26 x H | .22 x H | .23 x H | .24 x H | .34 x H | .27 x H |
| D O Q P R 8 9 | .24 x H | .35 x H | .25 x H | .21 x H | .22 x H | .23 x H | .33 x H | .26 x H |
| F T 7 | .21 x H | .32 x H | .22 x H | .18 x H | .19 x H | .20 x H | .30 x H | .23 x H |
| H I J M N U 1 | .34 x H | .45 x H | .35 x H | .31 x H | .32 x H | .33 x H | .43 x H | .36 x H |
| K L | .20 x H | .31 x H | .21 x H | .17 x H | .18 x H | .19 x H | .29 x H | .22 x H |
| S Y 2 | .22 x H | .33 x H | .23 x H | .19 x H | .20 x H | .21 x H | .31 x H | .24 x H |
| Z | .32 x H | .43 x H | .33 x H | .29 x H | .30 x H | .31 x H | .41 x H | .34 x H |
| 4 | .31 x H | .42 x H | .32 x H | .28 x H | .29 x H | .30 x H | .40 x H | .33 x H |

TABLE 4-7

REFLECTIVE BUTTON LETTER and DIGIT (Demountable Copy) SPECIFICATIONS
in terms of LETTER HEIGHT

| UPPER and LOWER CASE LETTER and DIGIT SPACING | | | | | | | | | | | |
|---|------------------------------|-------------------------------|------------------------|-----------------------------|------------|------------|---------------|------------|------------|------------|------------|
| Preceding Letter | Following Letter | | | | | | | | | | |
| | AVW Xac deg oq 5 | BDE FHI KLM NPR U | bhi lim npr u | CG OQS z 24 890 | J | j | T stv 7 | Y wf | xy | Z 1 | 3 6 |
| A V W X c e 5 6 | .31 x H | .46 x H | .42 x H | .32 x H | .27 x H | .20 x H | .28 x H | .29 x H | .30 x H | .43 x H | .33 x H |
| a d g h i j l m n q u | .40 x H | .55 x H | .51 x H | .41 x H | .36 x H | .29 x H | .37 x H | .38 x H | .39 x H | .52 x H | .42 x H |
| B 3 | .35 x H | .50 x H | .46 x H | .36 x H | .31 x H | .24 x H | .32 x H | .33 x H | .34 x H | .47 x H | .37 x H |
| b f k o p s | .29 x H | .44 x H | .40 x H | .30 x H | .25 x H | .18 x H | .26 x H | .27 x H | .28 x H | .41 x H | .31 x H |
| C E G | .34 x H | .49 x H | .45 x H | .35 x H | .30 x H | .23 x H | .31 x H | .32 x H | .33 x H | .46 x H | .36 x H |
| D O P Q R 8 9 0 | .32 x H | .47 x H | .43 x H | .33 x H | .28 x H | .21 x H | .29 x H | .30 x H | .31 x H | .44 x H | .34 x H |
| F T x 7 | .28 x H | .43 x H | .39 x H | .29 x H | .24 x H | .17 x H | .25 x H | .26 x H | .27 x H | .40 x H | .30 x H |
| H I J M N U 1 | .46 x H | .61 x H | .57 x H | .47 x H | .42 x H | .35 x H | .43 x H | .44 x H | .45 x H | .58 x H | .48 x H |
| K L w | .27 x H | .42 x H | .38 x H | .28 x H | .23 x H | .16 x H | .24 x H | .25 x H | .26 x H | .39 x H | .29 x H |
| r v y | .26 x H | .41 x H | .37 x H | .27 x H | .22 x H | .15 x H | .23 x H | .24 x H | .25 x H | .38 x H | .28 x H |
| S T t z 2 | .30 x H | .45 x H | .41 x H | .31 x H | .26 x H | .19 x H | .27 x H | .28 x H | .29 x H | .42 x H | .32 x H |
| Z | .43 x H | .58 x H | .54 x H | .44 x H | .39 x H | .32 x H | .40 x H | .41 x H | .42 x H | .55 x H | .45 x H |
| 4 | .42 x H | .57 x H | .53 x H | .43 x H | .38 x H | .31 x H | .39 x H | .40 x H | .41 x H | .54 x H | .44 x H |

TABLE 4-8
DIE-CUT and SILK SCREEN LETTER SPECIFICATIONS

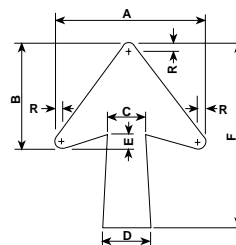
| HORIZONTAL DIMENSIONS OF HORIZONTAL, VERTICAL AND DIAGONAL ARROWS | | | | | | |
|--|----------------------|---------------|---------------|---------------|---------------|---------------|
| Arrow | Letter Height | | | | | |
| | 100 mm | 125 mm | 150 mm | 200 mm | 250 mm | 300 mm |
| HORIZONTAL | | | | | | |
| 1 Line | 162 mm | 205 mm | 324 mm | 438 mm | 406 mm | 514 mm |
| 2 Line | 162 mm | 205 mm | 324 mm | 438 mm | 514 mm | 514 mm |
| VERTICAL | | | | | | |
| 1 Line | 143 mm | 179 mm | 286 mm | 362 mm | 356 mm | 445 mm |
| 2 Line | 143 mm | 179 mm | 286 mm | 387 mm | 464 mm | 464 mm |
| 15° DIAGONAL | | | | | | |
| 1 Line | 137 mm | 171 mm | 276 mm | 349 mm | 279 mm | 429 mm |
| 2 Line | 137 mm | 171 mm | 276 mm | 372 mm | 448 mm | 448 mm |
| 30° DIAGONAL | | | | | | |
| 1 Line | 125 mm | 152 mm | 246 mm | 329 mm | 308 mm | 385 mm |
| 2 Line | 143 mm | 181 mm | 286 mm | 381 mm | 549 mm | 549 mm |
| 45° DIAGONAL | | | | | | |
| 1 Line | 132 mm | 171 mm | 276 mm | 353 mm | 317 mm | 414 mm |
| 2 Line | 181 mm | 236 mm | 362 mm | 481 mm | 871 mm | 595 mm |

WORD, LINE, ROUTE SHIELD AND ARROW SPACING ILLUSTRATION



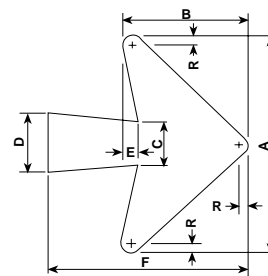
TABLE 4-9
STANDARD ARROW SPECIFICATIONS FOR DIRECTIONAL SIGNS

**ONE LINE HORIZONTAL, VERTICAL,
and DIAGONAL ARROWS**



| Letter Sizes in mm | Dimensions in mm | | | | | | | Reflectors (when used) | |
|----------------------------|------------------|-----|-----|-----|----|-----|----|---------------------------|------------|
| | A | B | C | D | E | F | R | Num | Dia. in mm |
| 100 U. C. & Cap | 143 | 92 | 40 | 49 | 11 | 162 | 8 | | |
| 125 Cap | 179 | 116 | 49 | 62 | 14 | 205 | 10 | | |
| 150 U. C. | 214 | 138 | 59 | 75 | 16 | 243 | 13 | 34 | 13 |
| 150 Cap | 286 | 184 | 79 | 98 | 22 | 324 | 16 | 32 | 17 |
| 200 U. C. | 286 | 184 | 79 | 98 | 22 | 324 | 16 | 32 | 17 |
| 200 Cap | 362 | 249 | 86 | 114 | 33 | 438 | 19 | 36 | 22 |
| 270 U. C. | 362 | 249 | 86 | 114 | 33 | 438 | 19 | 36 | 22 |
| 250 Cap | 356 | 229 | 102 | 127 | 22 | 406 | 22 | 25 | 32 |
| 300 Cap | 445 | 298 | 111 | 143 | 38 | 514 | 22 | 34 | 32 |
| 340 U. C. | 445 | 298 | 111 | 143 | 38 | 514 | 22 | 34 | 32 |
| 400 Cap | 556 | 362 | 127 | 171 | 44 | 635 | 25 | 43 | 32 |

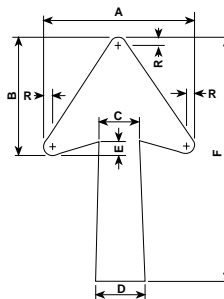
**TWO LINE HORIZONTAL
ARROWS**



| Letter Sizes in mm | Dimensions in mm | | | | | | | Reflectors (when used) | |
|----------------------------|------------------|-----|-----|-----|----|-----|----|---------------------------|------------|
| | A | B | C | D | E | F | R | Num | Dia. in mm |
| 100 U. C. & Cap | 181 | 105 | 40 | 49 | 11 | 162 | 8 | | |
| 125 Cap | 229 | 132 | 33 | 62 | 14 | 205 | 10 | | |
| 150 U. C. | 271 | 157 | 59 | 75 | 16 | 243 | 13 | 36 | 13 |
| 150 Cap | 362 | 210 | 79 | 98 | 22 | 324 | 16 | 36 | 17 |
| 200 U. C. | 362 | 210 | 79 | 98 | 22 | 324 | 16 | 36 | 17 |
| 200 Cap | 476 | 279 | 95 | 127 | 33 | 438 | 21 | 42 | 22 |
| 270 U. C. | 476 | 279 | 95 | 127 | 33 | 438 | 21 | 42 | 22 |
| 250 Cap | 605 | 351 | 114 | 152 | 38 | 514 | 19 | 40 | 32 |
| 300 Cap | 605 | 351 | 114 | 152 | 38 | 514 | 19 | 40 | 32 |
| 340 U. C. | 605 | 351 | 114 | 152 | 38 | 514 | 19 | 40 | 32 |
| 400 Cap | 724 | 419 | 137 | 181 | 44 | 635 | 25 | 47 | 32 |

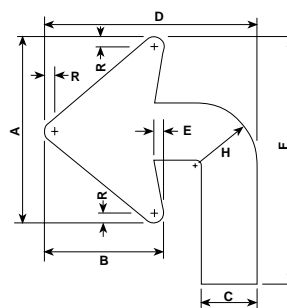
TABLE 4-10
STANDARD ARROW SPECIFICATIONS FOR DIRECTIONAL SIGNS

**TWO LINE VERTICAL and DIAGONAL
ARROWS**



| Letter Sizes in mm | Dimensions in mm | | | | | | | Reflectors (when used) | |
|----------------------------|------------------|-----|-----|-----|----|-----|----|---------------------------|------------|
| | A | B | C | D | E | F | R | Num | Dia. in mm |
| 100 U. C. & Cap | 143 | 111 | 40 | 49 | 11 | 232 | 8 | | |
| 125 Cap | 179 | 140 | 49 | 62 | 14 | 292 | 10 | | |
| 150 U. C. | 214 | 167 | 59 | 75 | 16 | 348 | 13 | 44 | 13 |
| 150 Cap | 286 | 222 | 79 | 98 | 22 | 464 | 16 | 44 | 17 |
| 200 U. C. | 286 | 222 | 79 | 98 | 22 | 464 | 16 | 44 | 17 |
| 200 Cap | 384 | 294 | 95 | 127 | 33 | 616 | 21 | 50 | 22 |
| 270 U. C. | 384 | 294 | 95 | 127 | 33 | 616 | 21 | 50 | 22 |
| 250 Cap | 464 | 356 | 114 | 152 | 38 | 743 | 19 | 44 | 32 |
| 300 Cap | 464 | 356 | 114 | 152 | 38 | 743 | 19 | 44 | 32 |
| 340 U. C. | 464 | 356 | 114 | 152 | 38 | 743 | 19 | 44 | 32 |
| 400 Cap | 565 | 432 | 137 | 181 | 44 | 905 | 25 | 55 | 32 |

ADVANCE ARROWS



| Letter Sizes in mm | Dimensions in mm | | | | | | | | Reflectors (when used) | |
|-----------------------|------------------|-----|----|-----|----|-----|-----|----|---------------------------|------------|
| | A | B | C | D | E | F | H | R | Num | Dia. in mm |
| 150 U. C. | 214 | 166 | 67 | 248 | 16 | 286 | 76 | 13 | 47 | 13 |
| 150 Cap | 286 | 184 | 89 | 330 | 22 | 381 | 102 | 16 | 47 | 17 |
| 200 U. C. | 286 | 184 | 89 | 330 | 22 | 381 | 102 | 16 | 47 | 17 |

VERTICAL DOWN ARROWS

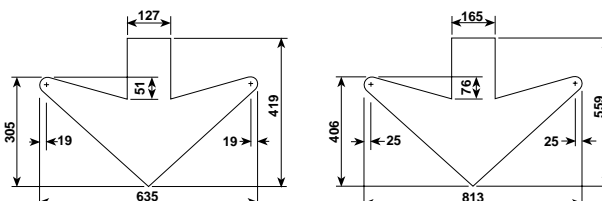


TABLE 4-11
STANDARD ROUTE SHIELDS FOR GUIDE SIGNS
ALL DIMENSIONS IN MM

STATE ROUTE SHIELDS

| SHIELD SIZE | QUANTITY OF NUMERALS | NUMERAL SIZE | SIZE OF LETTERS ON SIGN |
|-------------|----------------------|-----------------------|---|
| 260 x 230 | 1 or 2 | 100 | 100 CAPS |
| 380 x 280 | 3 | 100 | 100 CAPS |
| 535 x 460 | 1 or 2 | 200 | 200 U. C. & 150 L. C. or 150 U. C. & 115 L. C. |
| 610 x 4670 | 3 | 200 with numeral 1 | 200 U. C. & 150 L. C. or 150 U. C. & 115 L. C. |
| 610 x 460 | 3 | 150 without numeral 1 | 200 U. C. & 150 L. C. or 150 U. C. & 115 L. C. |
| 710 x 635 | 1 or 2 | 250 | 270 U. C. & 200 L. C. |
| 815 x 635 | 3 | 250 | 270 U. C. & 200 L. C. and G23 |
| 890 x 815 | 1 or 2 | 300 | 340 U. C. & 250 L. C. |
| 1015 x 815 | 3 | 300 | 340 U. C. & 250 L. C. other than G23 |
| 915 x 915 | 1 or 2 | 380 | 400 U. C. & 300 L. C. |
| 1145 x 915 | 3 | 380 with numeral 1 | 400 U. C. & 300 L. C. |
| 1145 x 915 | 3 | 300 without numeral 1 | 400 U. C. & 300 L. C. |
| 1065 x 1065 | 1 or 2 | 460 | 510 U. C. & 380 L. C. |
| 1370 x 1065 | 3 | 460 | 510 U. C. & 380 L. C. |

INTERSTATE ROUTE SHIELDS

| SHIELD SIZE | QUANTITY OF NUMERALS | NUMERAL SIZE | SIZE OF LETTERS ON SIGN |
|-------------|----------------------|---------------------------|---|
| 355 x 300 | 1 or 2 | 100 | 100 CAPS |
| 405 x 355 | 3 | 100 | 100 CAPS |
| 535 x 460 | 1 or 2 | 200 | 200 U. C. & 150 L. C. or 150 U. C. & 115 L. C. |
| 535 x 460 | 3 | 150 with the numeral 1 | 200 U. C. & 150 L. C. or 150 U. C. & 115 L. C. |
| 610 x 610 | 3 | 150 without the numeral 1 | 200 U. C. & 150 L. C. or 150 U. C. & 115 L. C. |
| 610 x 610 | 1 or 2 | 250 | 270 U. C. & 200 L. C. |
| 760 x 635 | 3 | 250 with the numeral 1 | 270 U. C. & 200 L. C. |
| 760 x 635 | 3 | 200 without the numeral 1 | 270 U. C. & 200 L. C. and G23 |
| 915 x 915 | 1 or 2 | 300 | 340 U. C. & 250 L. C. |
| 915 x 915 | 3 | 300 with the numeral 1 | 340 U. C. & 250 L. C. |
| 1145 x 965 | 3 | 300 without the numeral 1 | 340 U. C. & 250 L. C. other than the G23 |
| 915 x 915 | 1 or 2 | 380 | 400 U. C. & 300 L. C. |
| 1145 x 965 | 3 | 380 with the numeral 1 | 400 U. C. & 300 L. C. |
| 1145 x 965 | 3 | 300 without the numeral 1 | 400 U. C. & 300 L. C. |
| 1220 x 1220 | 1 or 2 | 460 | 510 U. C. & 380 L. C. |
| 1475 x 1295 | 3 | 460 | 510 U. C. & 380 L. C. |

NOTES:

G77R & G78R WITH 200 mm U. C. & 150 mm L. C. USE 250 mm NUMERAL SHIELDS. WHEN SHIELD IS ON LINE WITH WORD MESSAGE, SHIELD NUMBER MATCHES LOWER CASE HEIGHT.

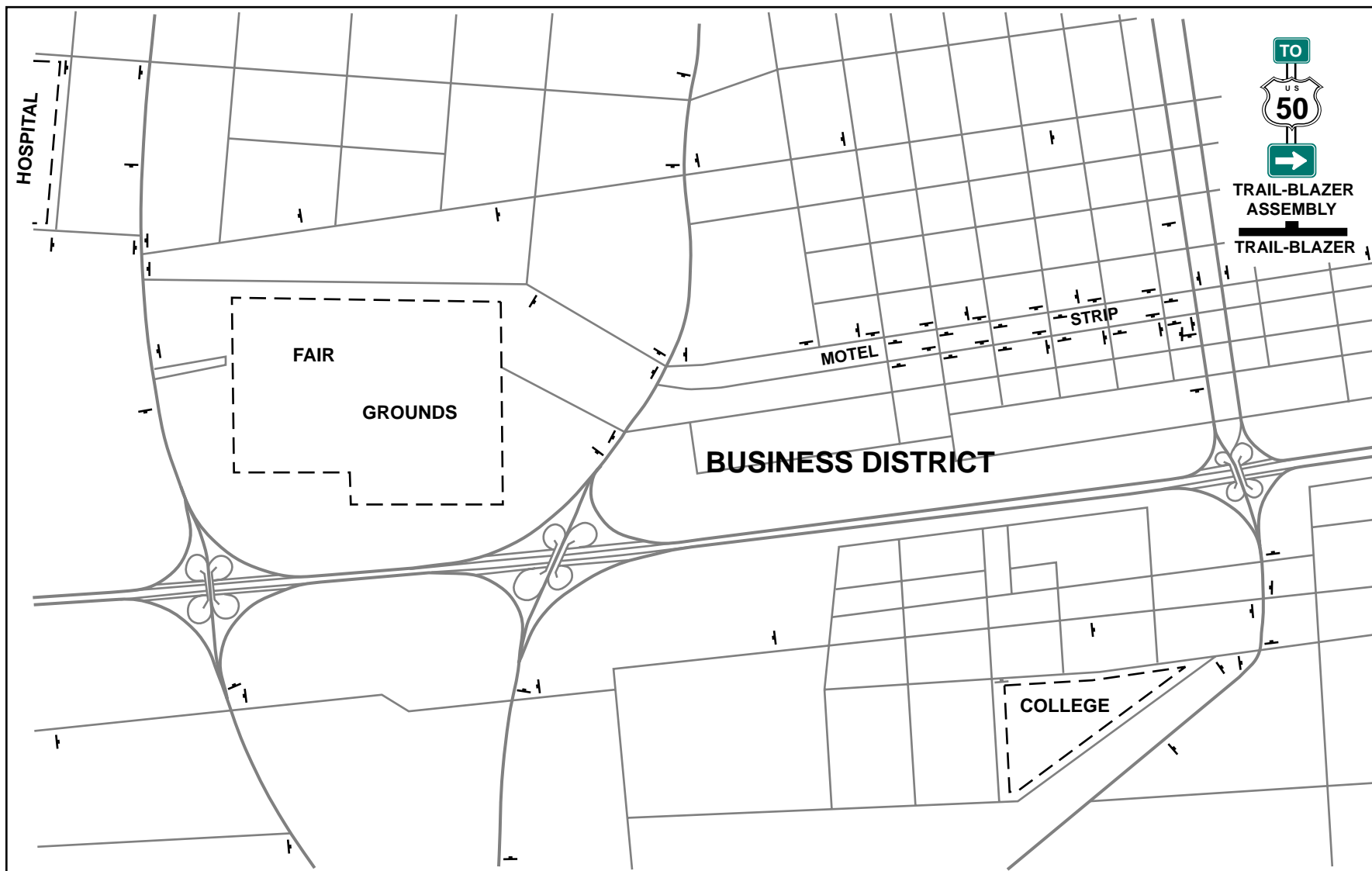


U. S. ROUTE SHIELDS

| SHIELD SIZE | QUANTITY OF NUMERALS | NUMERAL SIZE | SIZE OF LETTERS ON SIGN |
|-------------|----------------------|--------------|---|
| 290 X 250 | 1 or 2 | 100 | 100 CAPS |
| 370 X 250 | 3 | 100 | 100 CAPS |
| 530 X 460 | 1 or 2 | 200 | 200 U. C. & 150 L. C. or 150 U. C. & 115 L. C. |
| 685 X 460 | 3 | 200 | 200 U. C. & 150 L. C. or 150 U. C. & 115 L. C. |
| 710 X 610 | 1 or 2 | 250 | 270 U. C. & 200 L. C. |
| 915 X 610 | 3 | 250 | 270 U. C. & 200 L. C. and G23 |
| 890 X 760 | 1 or 2 | 300 | 340 U. C. & 250 L. C. |
| 1145 X 760 | 3 | 300 | 340 U. C. & 250 L. C. other than G23 |
| 1065 X 915 | 1 or 2 | 380 | 400 U. C. & 300 L. C. |
| 1370 X 915 | 3 | 380 | 400 U. C. & 300 L. C. |
| 1245 X 1065 | 1 or 2 | 460 | 510 U. C. & 380 L. C. |
| 1600 X 1065 | 3 | 460 | 510 U. C. & 380 L. C. |

Figure 4-6

TRAIL-BLAZING TO FREEWAYS TYPICAL FREEWAY CORRIDOR



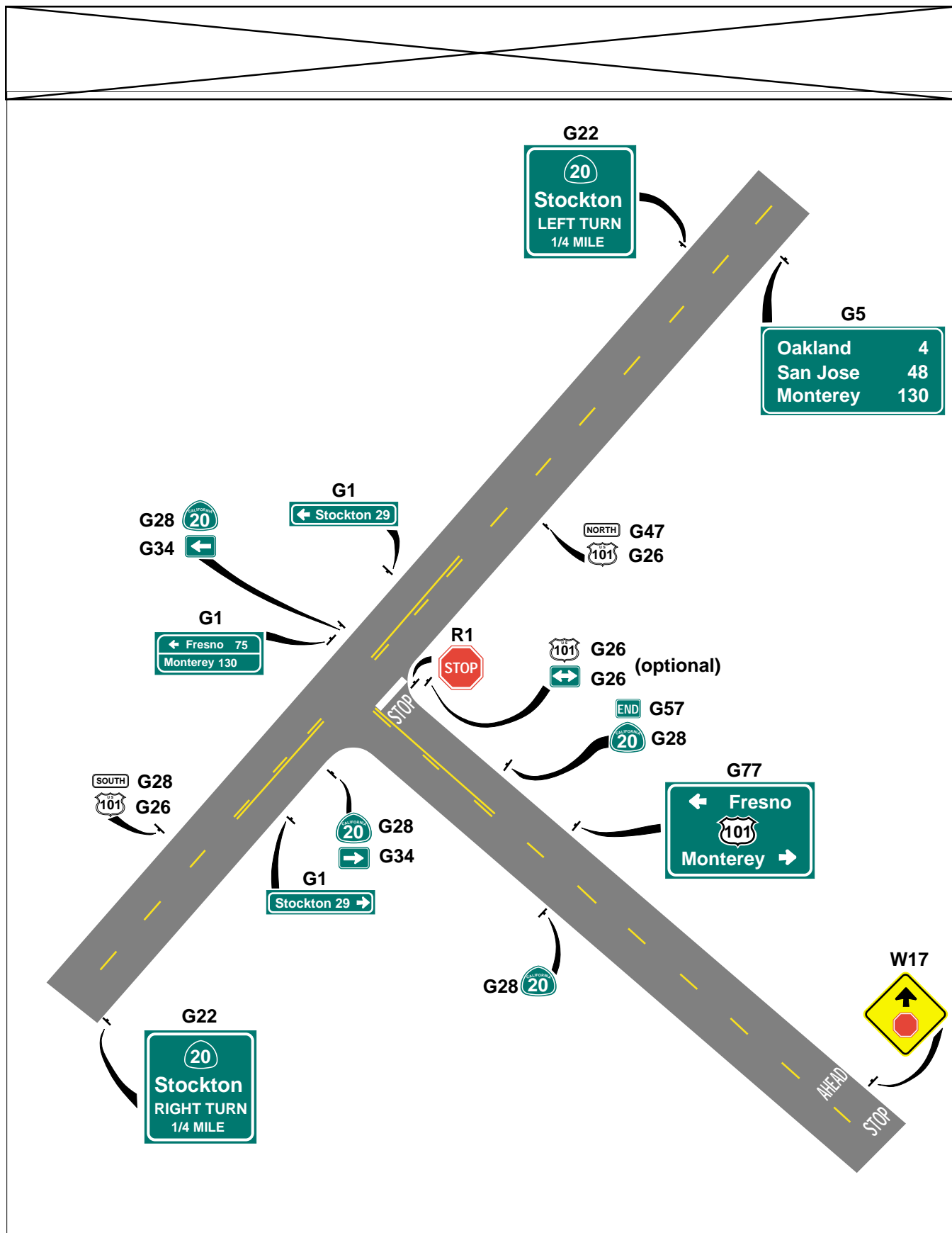


Figure 4-8

SIGN ROUTE MARKERS

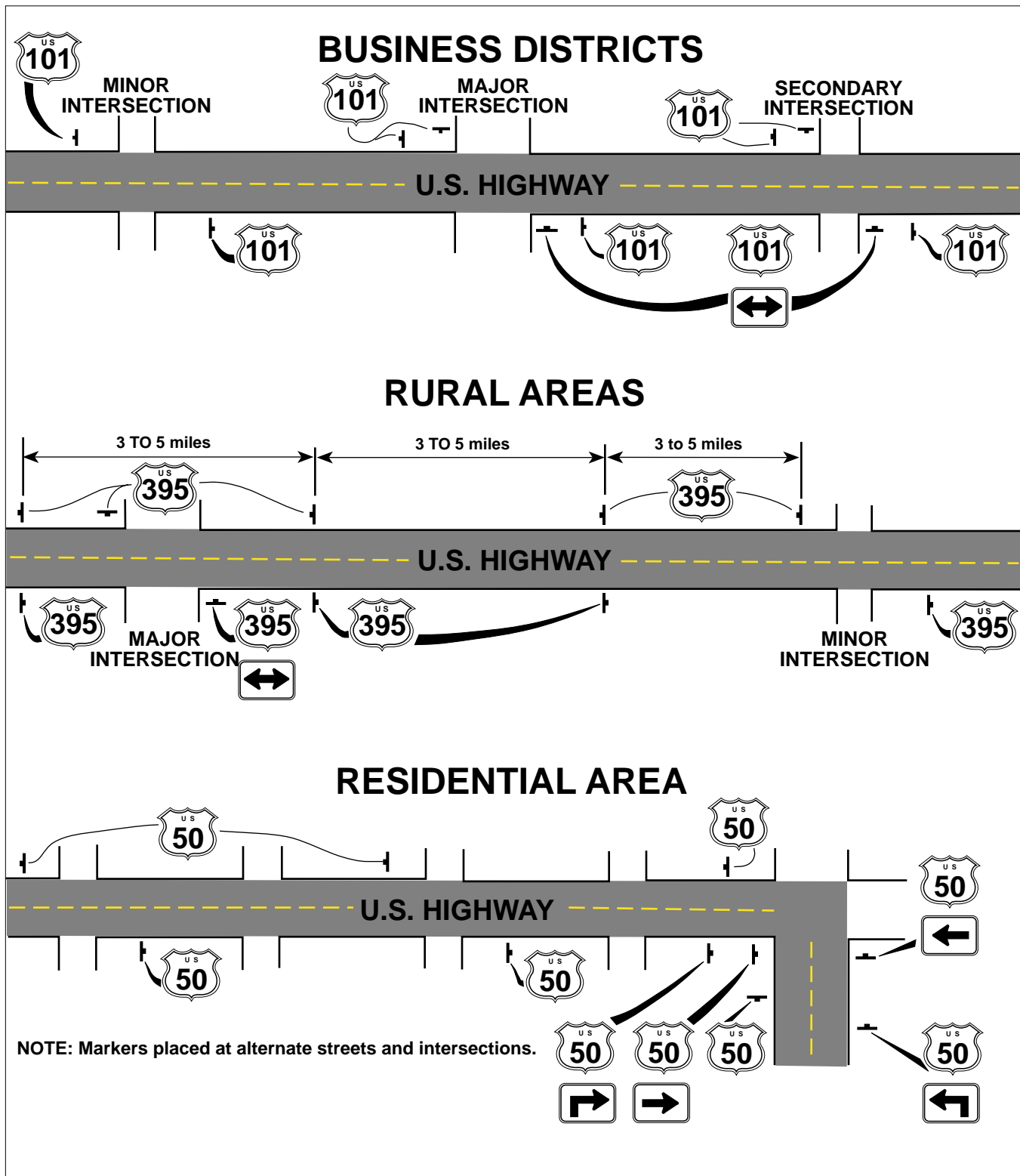
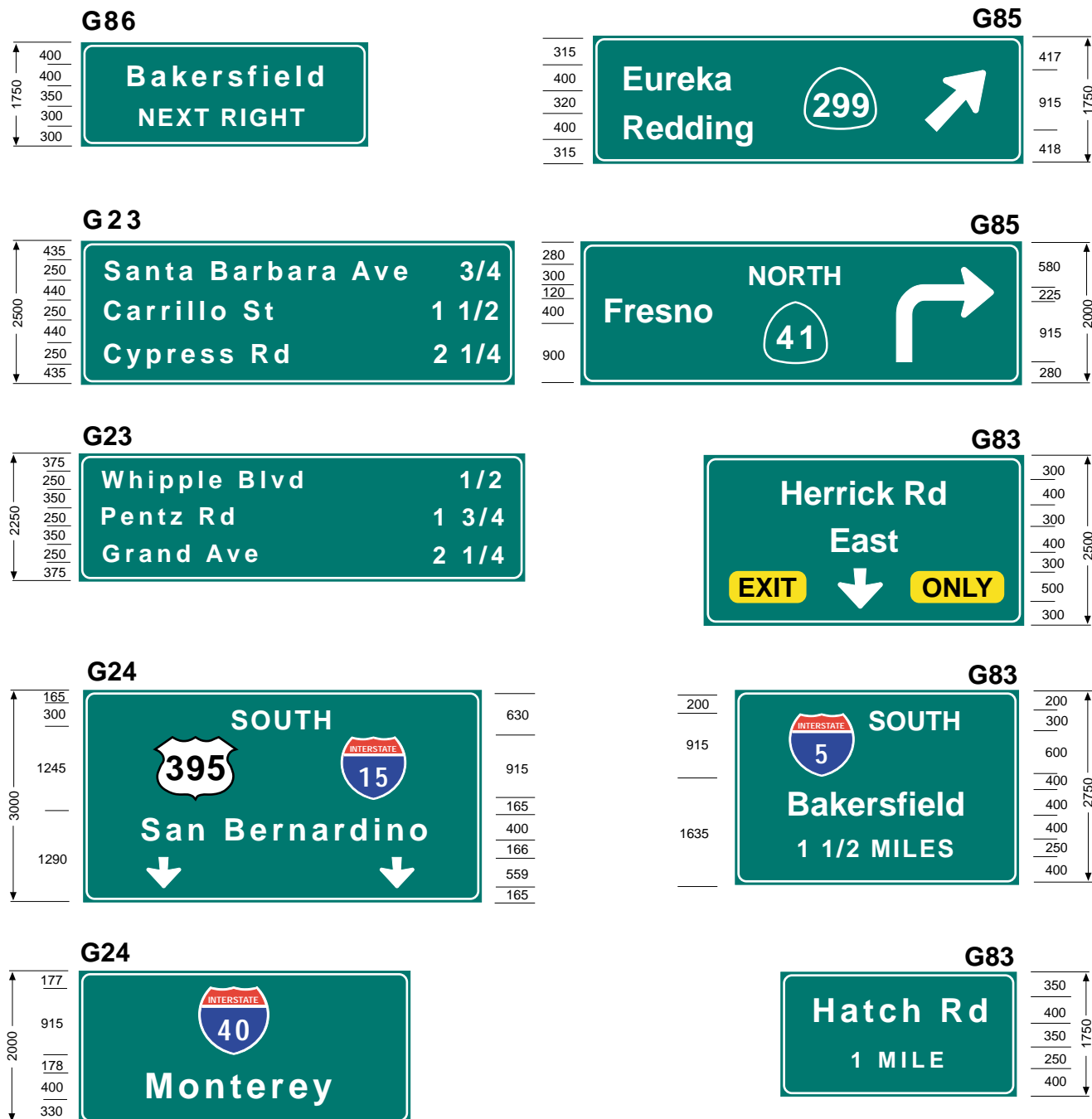


Figure 4-9
TYPICAL OVERHEAD SIGNS



NOTE:

All panels on individual sign structures shall be of the same height. Dimensions shown are in millimeters and are standard, but may be adjusted to conform with adjacent panels.

Figure 4-10

TYPICAL FREEWAY SIGNING

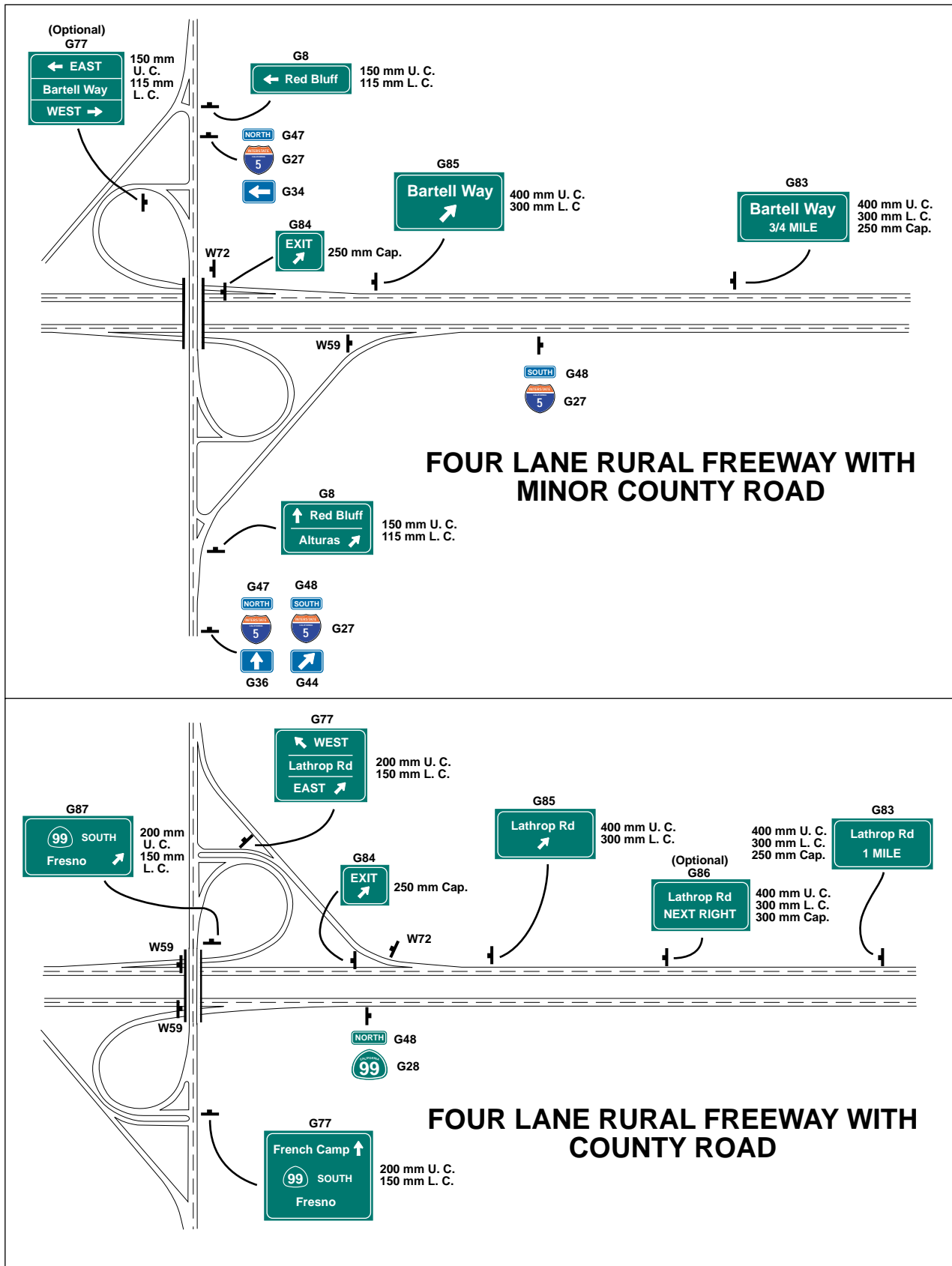


Figure 4-11

TYPICAL FREEWAY SIGNING

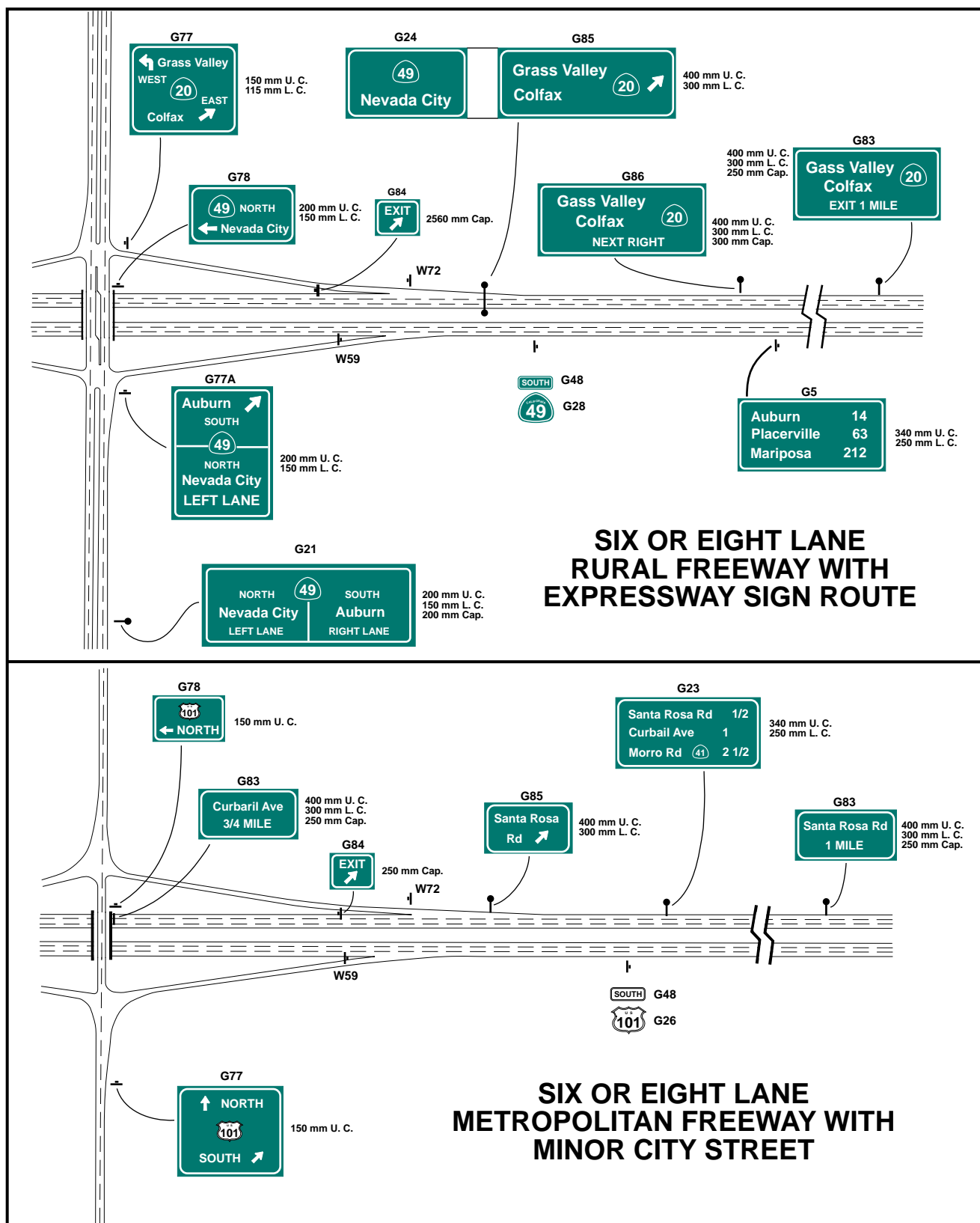


Figure 4-12

TYPICAL FREEWAY SIGNING

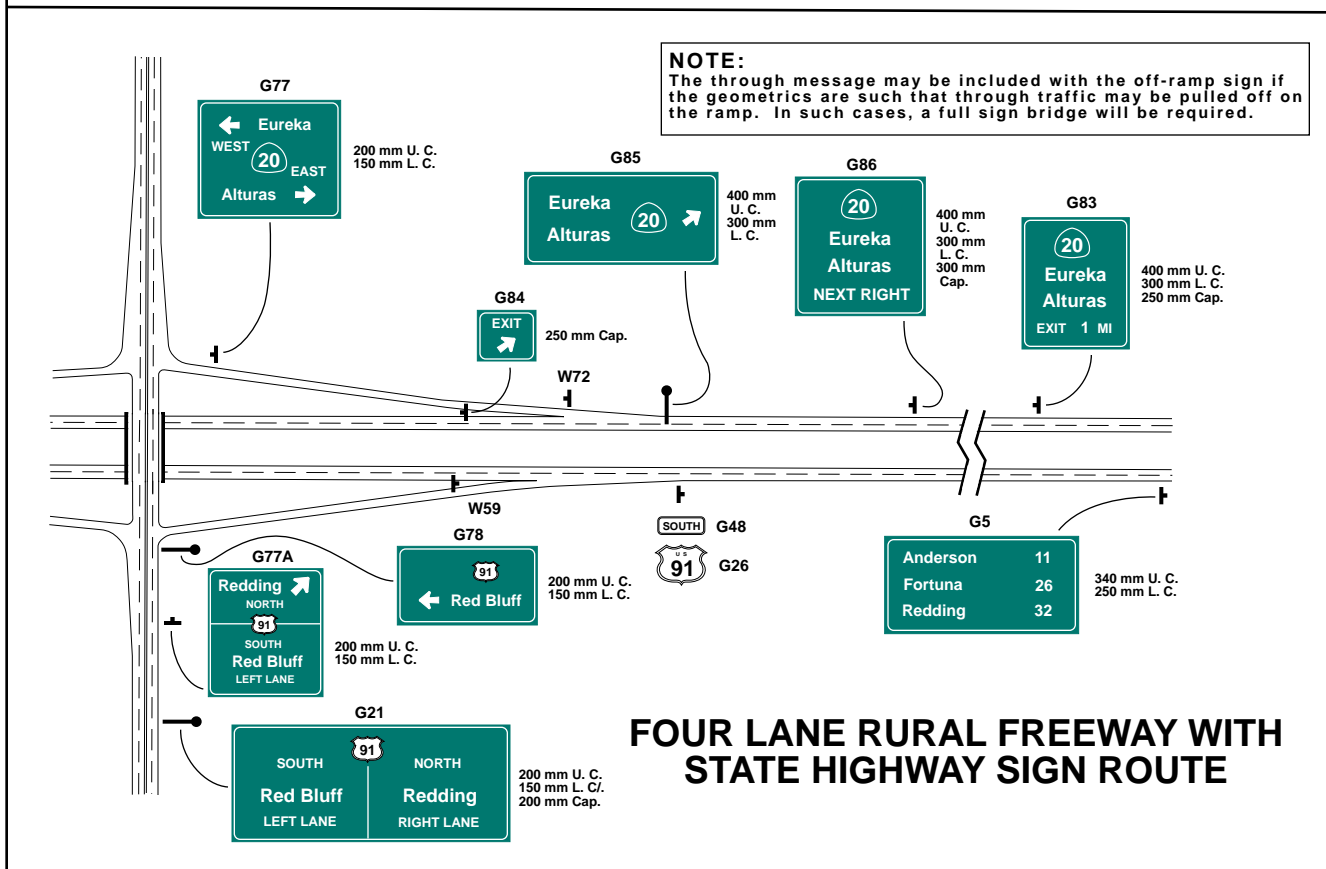
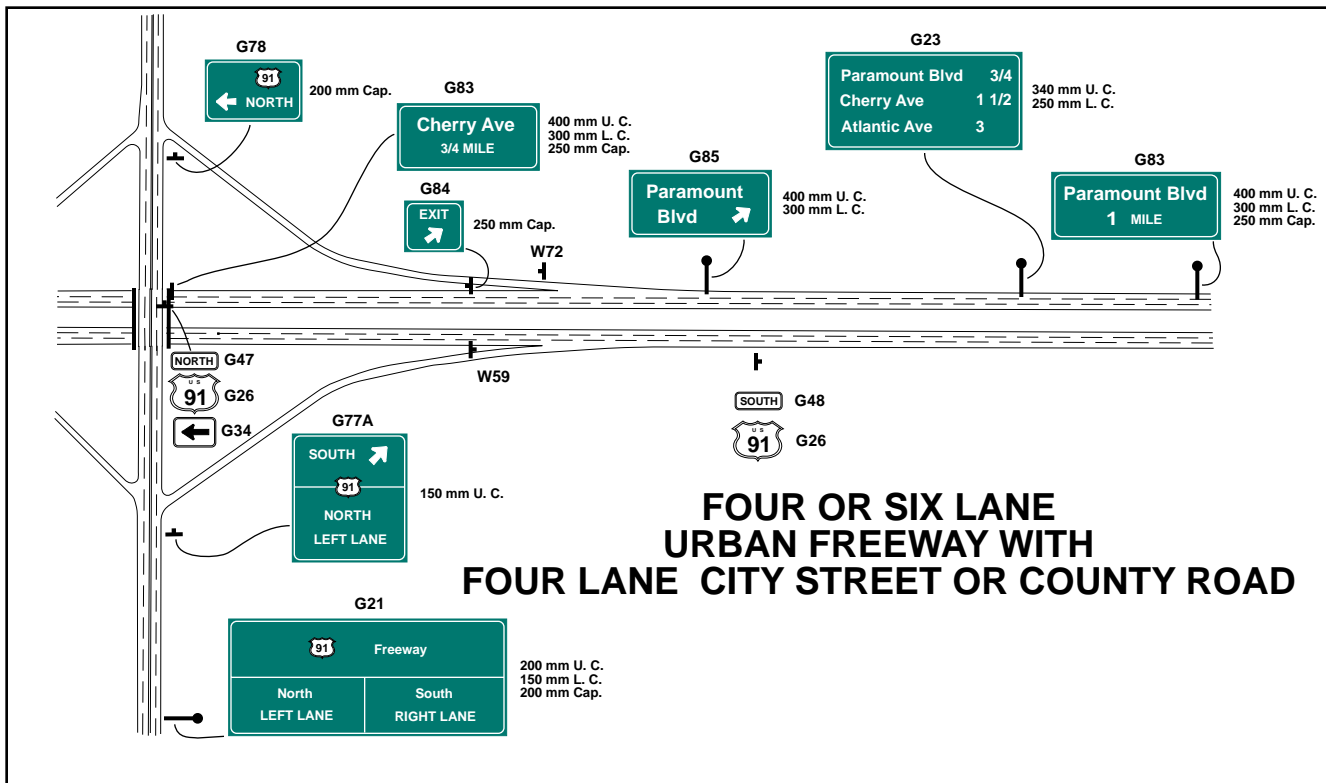


Figure 4-13

TYPICAL FREEWAY SIGNING

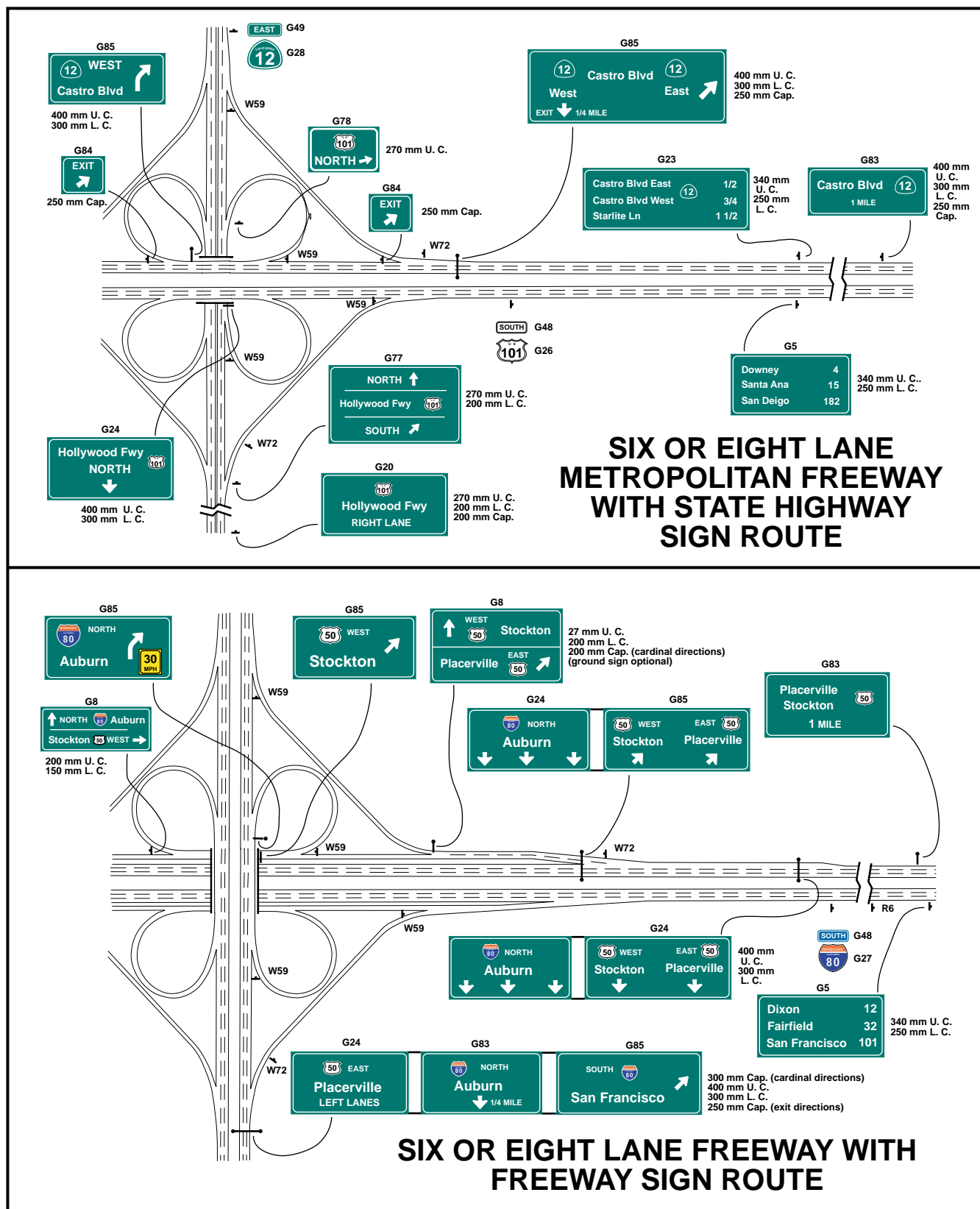
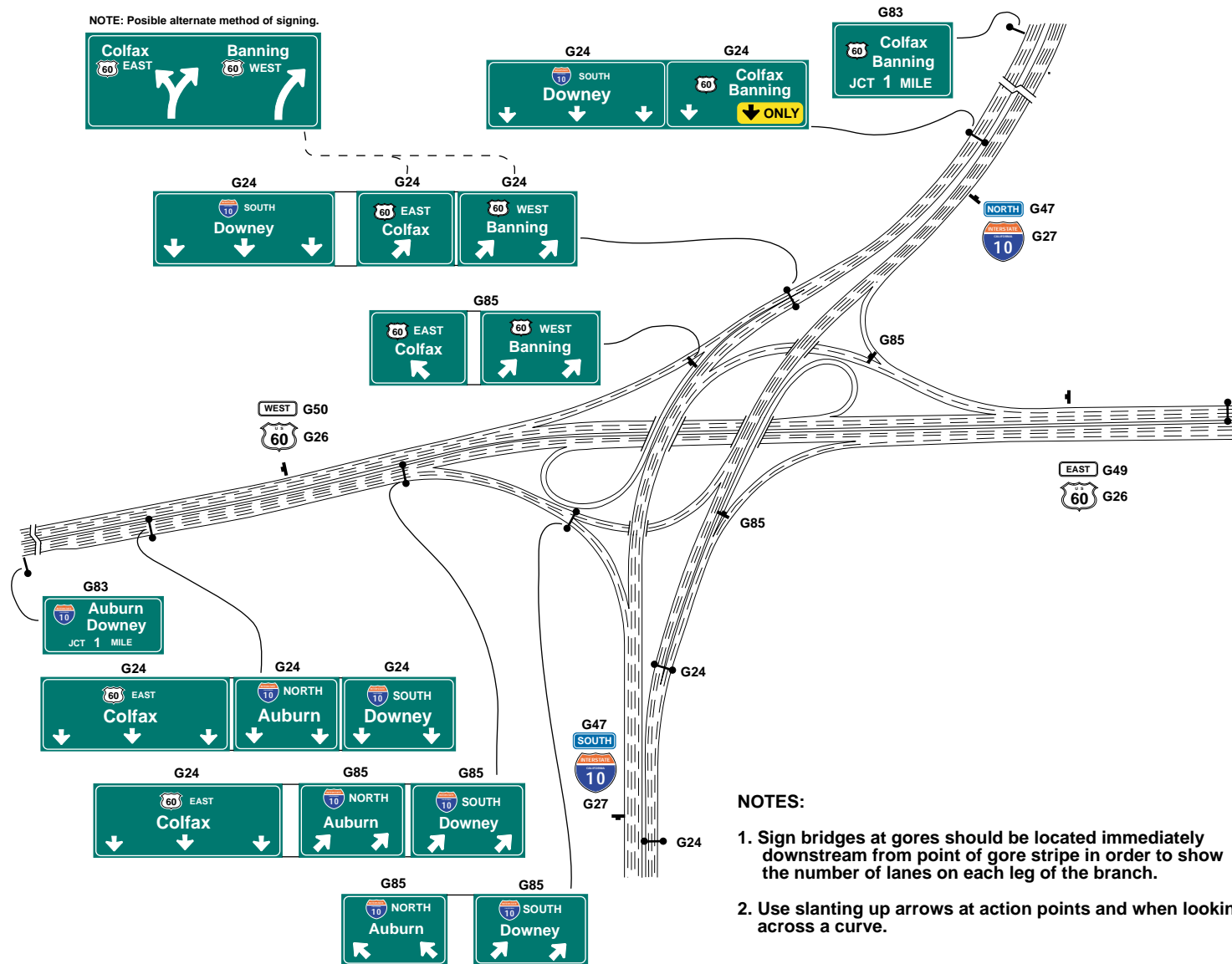


Figure 4-14
TYPICAL FREEWAY INTERCHANGING



Ramp Terminal Signing 4-05

4-05.1 General

A. *Introduction*

Ramp terminal signing serves two important functions:

1. A link in the guidance system for traffic moving from the conventional roadway to the freeway.
2. Information to prevent a driver from getting into a wrong-way driving situation.

In order to preform these functions, signing must be placed so that it can be seen. Analysis of wrong-way driving accidents has shown that over 70% occur during hours of darkness. Signing placed in an effort to decrease wrong-way movements should therefore be at its best at night.

B. *Definitions:*

- Freeway entrance or totem pole package - A vertical arrangement of G92 (Freeway Entrance), route shield, cardinal direction, and arrow signs on a single post in which the Freeway Entrance sign is on top and the arrow is on the bottom.
- Do not enter package - An R11 (Do Not Enter) sign with an R11A (Wrong Way) directly beneath it on a single post.
- Crossing or intersecting street - The local street or road via which traffic movements are made to or from a ramp.
- Decision Point - The point at which a motorist must decide, or have decided, which of two road was to use. This point is usually prior to the start of a potential turning movement.

C. *Placement:*

Care must be taken to place ramp terminal signs within the area normally illuminated by automobile headlights. Ambient lighting in the vicinity of the signs must also be considered. A dark sign with a bright light behind it will often be unreadable.

In order to be most responsive to headlights, Do Not Enter and Freeway Entrance packages should be mounted with the bottom of the lower sign 0.6 m above the edge of the pavement. One Way arrows (R10) should be mounted at 0.45 m above the edge of pavement. This will generally ensure that these arrows are low enough that they will not be a sight

restriction to the right-way traffic. Standard mounting height for all other signs in the ramp terminal area will remain at 1.5 m. In locations subject to deep snow, sign heights may be adjusted in accordance with the judgement of the District Traffic Engineer.

R43 or R44 signs (pedestrian prohibition), if installed, should be placed far enough up the ramp to avoid conflict with signs near the terminal. Generally, 23 m to 30 m will be sufficient.

The sign locations shown in Figures 4-15 through 4-24, are approximate. All ramp terminals must be reviewed under both day and night conditions by experienced signing personnel to determine exact locations.

D. *Pavement Markings:*

At least two large painted pavement arrows shall be placed and maintained in the center of each lane of each exit ramp. At least one Type I arrow, not less than 5.49 m in length, shall be positioned in the center of each freeway entrance ramp.

See Chapter 6-02.14.

4-05.2 On-Ramp Terminal Signing

Lead-in signing directing motorists to on-ramps is very important. Care should be taken to ensure that arrows on direction signs cannot be interpreted as pointing into inappropriate roadways, especially off-ramp terminals.

Partial interchanges often need special attention with respect to lead-in signing. Trailblazing a route from a partial interchange to another interchange may be necessary to ensure proper traffic movements.

Freeway entrance packages (G92, route, direction, and down diagonal arrow) should be placed as near the diverge point between the on-ramp and the intersecting roadway as practicable. The down diagonal arrow should always point toward the on-ramp pavement.

Large (1200 mm x 750 mm) Freeway Entrance signs should be used with the freeway entrance package. The location of the sign package should not be controlled by the use of the larger signs. If proper placement requires the smaller (900 mm x 550 mm) Freeway Entrance sign, it should be used.

4-05.3 Off-Ramp Terminal Signing

Word message R16A and R17A turn prohibition signs shall be placed in suitable locations on the crossing street in advance of the off-ramp. Symbol type R16 and R17 turn prohibition signs shall **not** be used at ramp terminals.

Generally, Do Not Enter packages should be placed at off-ramp terminals to meet the following criteria:

1. At least one package should be visible to a driver (within the scope of his headlights) at his decision point on each potential approach.
2. At least one package should be in the head-on position for the driver turning into the off-ramp from each potential approach.

A field decision will have to be made whether to use three Do Not Enter packages or four if the off-ramp is split by a traffic island. Generally, curbed islands larger than 93 sq. m in area indicate the use of four packages. Painted islands may be somewhat larger and still be adequately signed with three packages. Refer to Figures 4-19, 4-22 and 4-23.

One-Way arrows (R10) should be placed as close to the crossing street as possible. If there are sidewalks immediately adjacent to the cross street, these signs should be located behind the sidewalk to avoid conflicting with pedestrians. A less desirable alternate is relocating the signs above the pedestrian level.

At skewed ramp intersections, where the angle approaches 90°, a second One-Way arrow should be added on the obtuse side when it would be visible to approaching traffic. Refer to Figure 4-16.

Figure 4-15

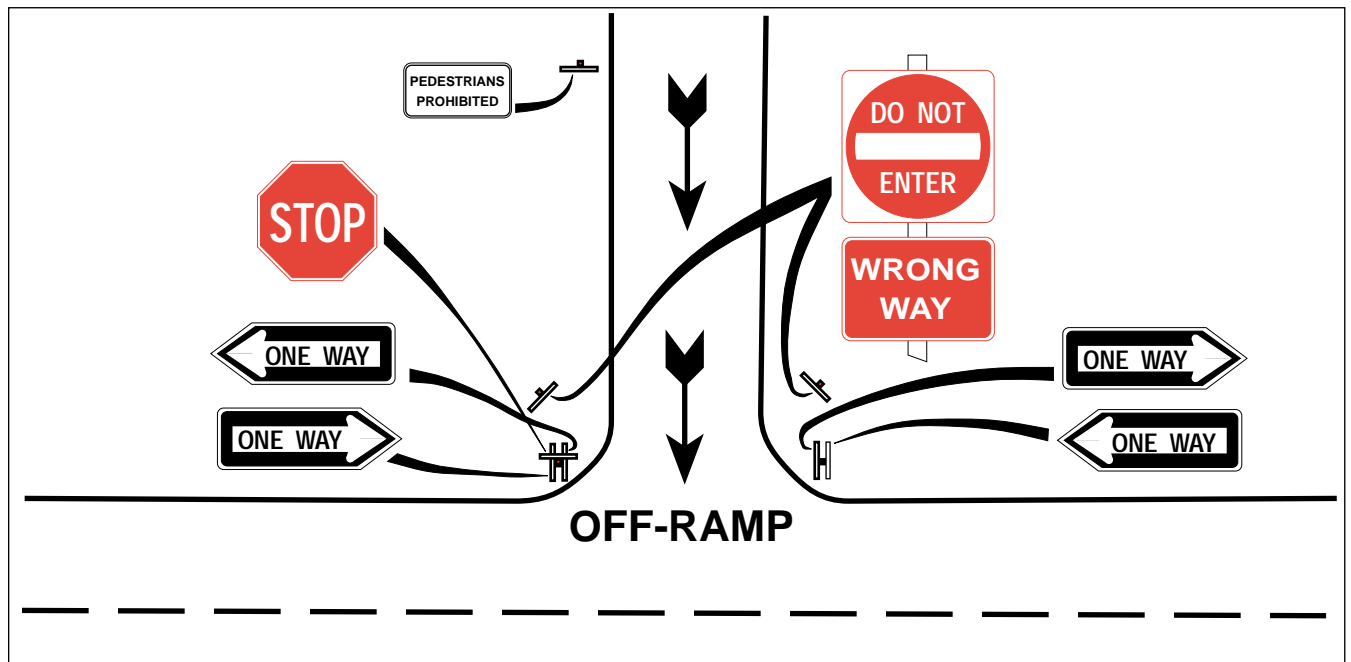


Figure 4-16

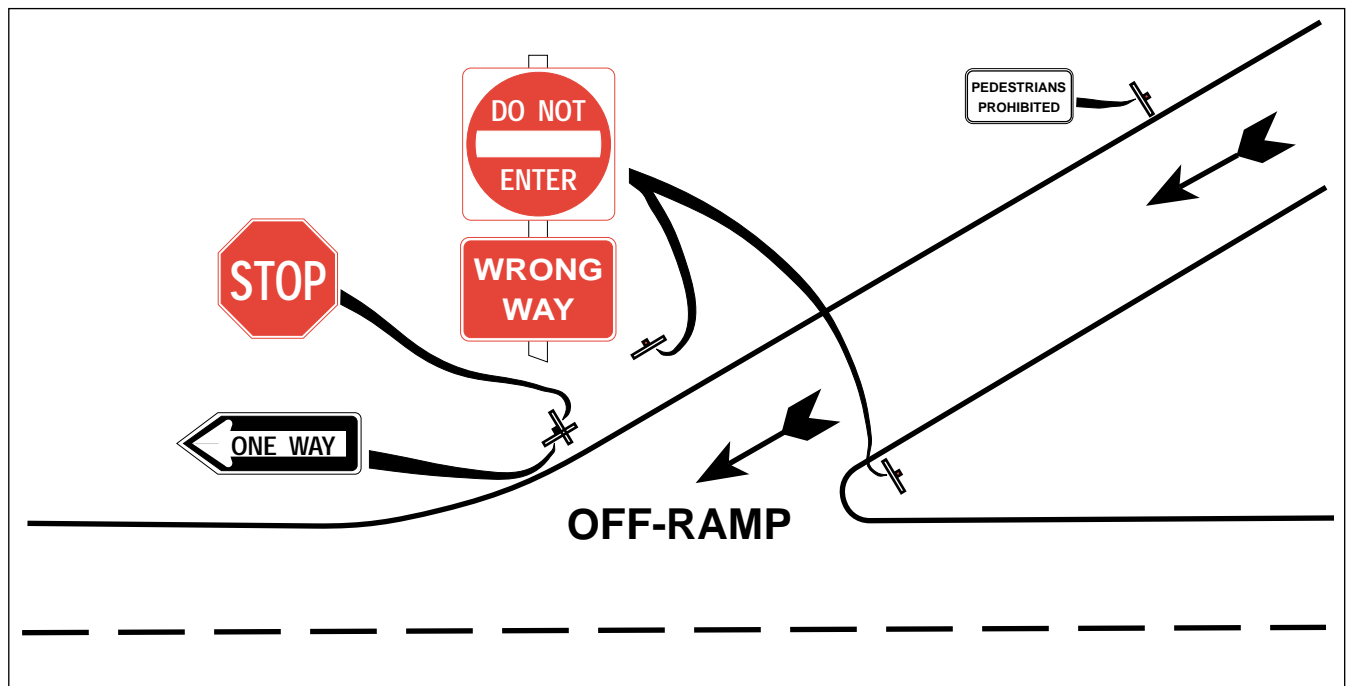


Figure 4-17

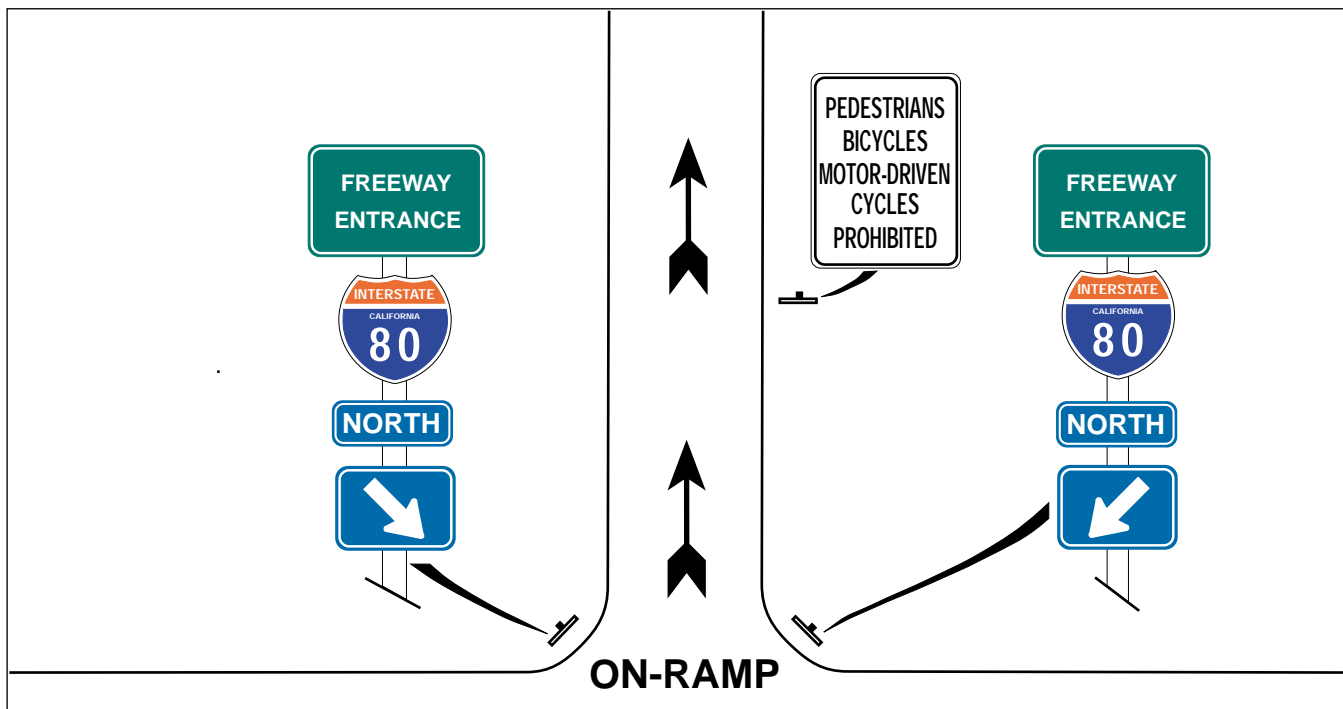


Figure 4-18

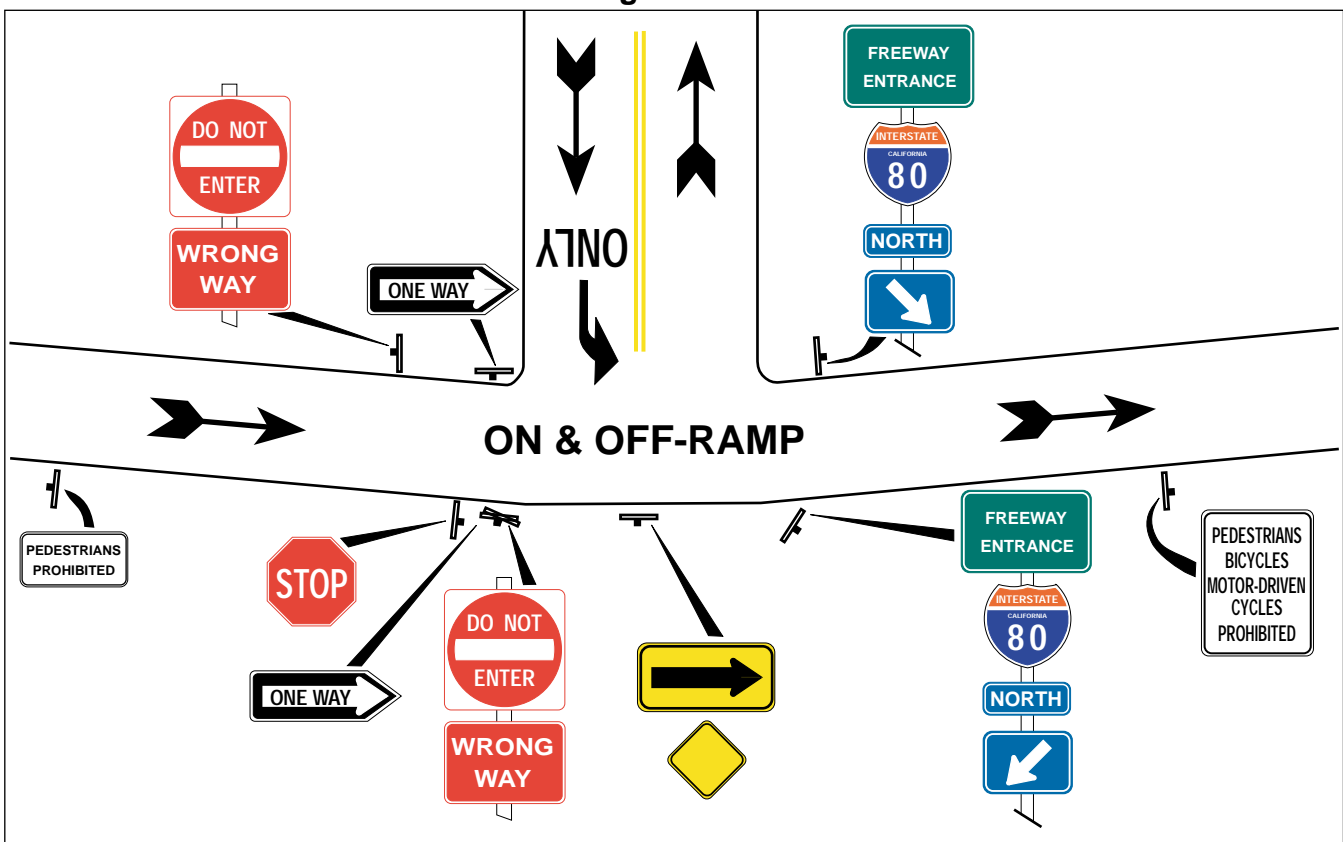


Figure 4-19

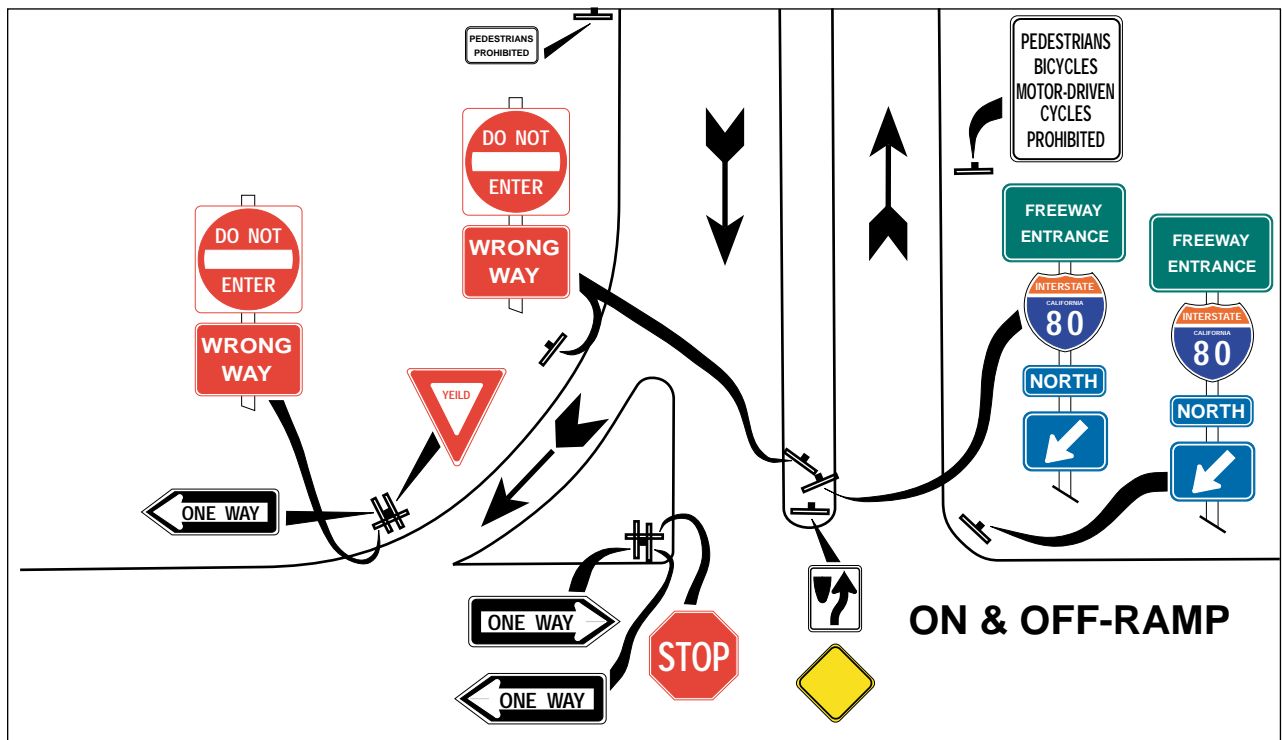


Figure 4-20

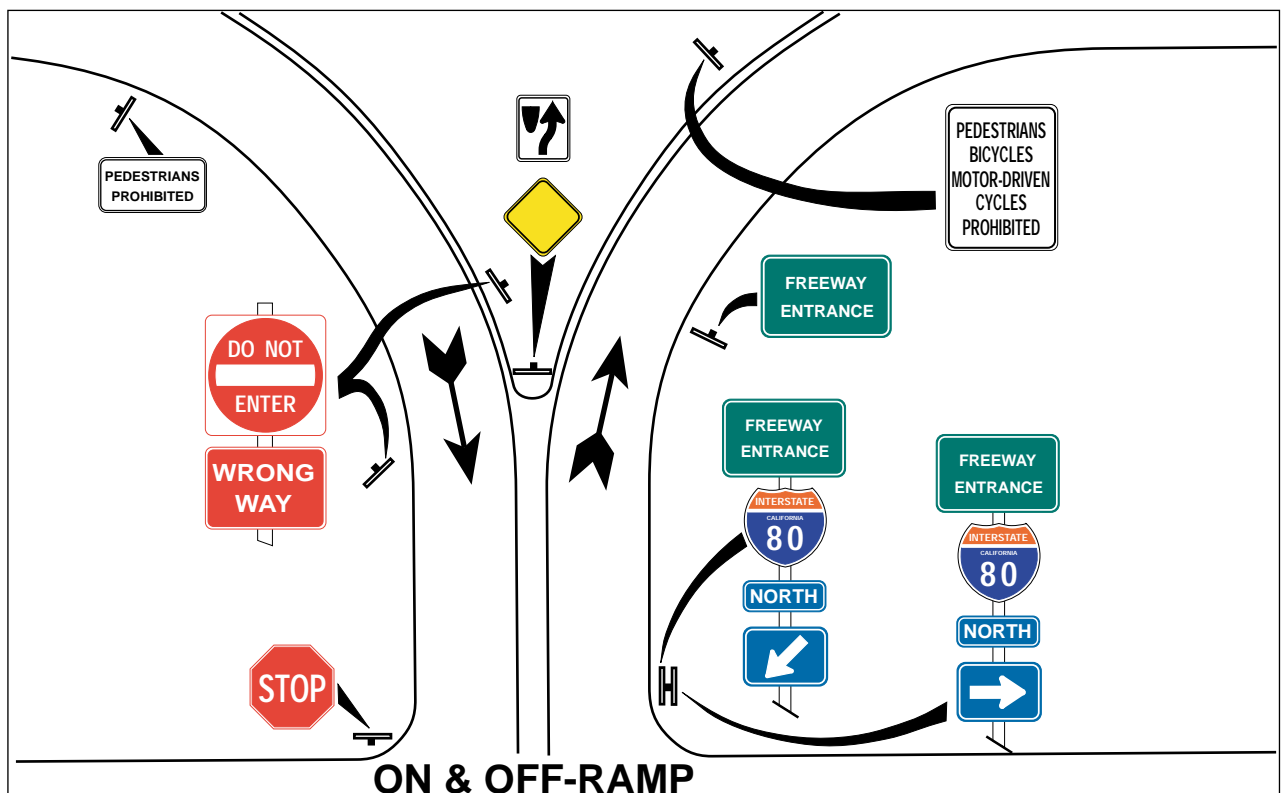


Figure 4-21

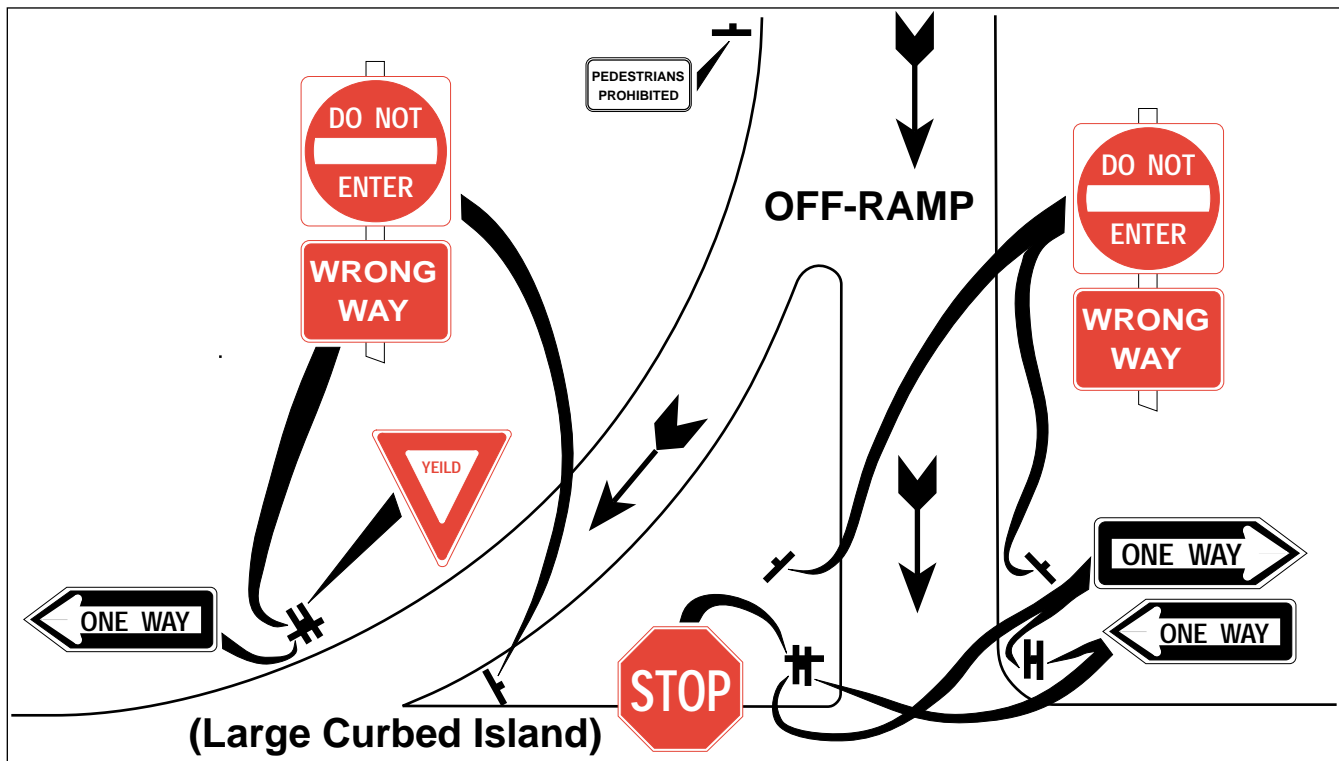


Figure 4-22

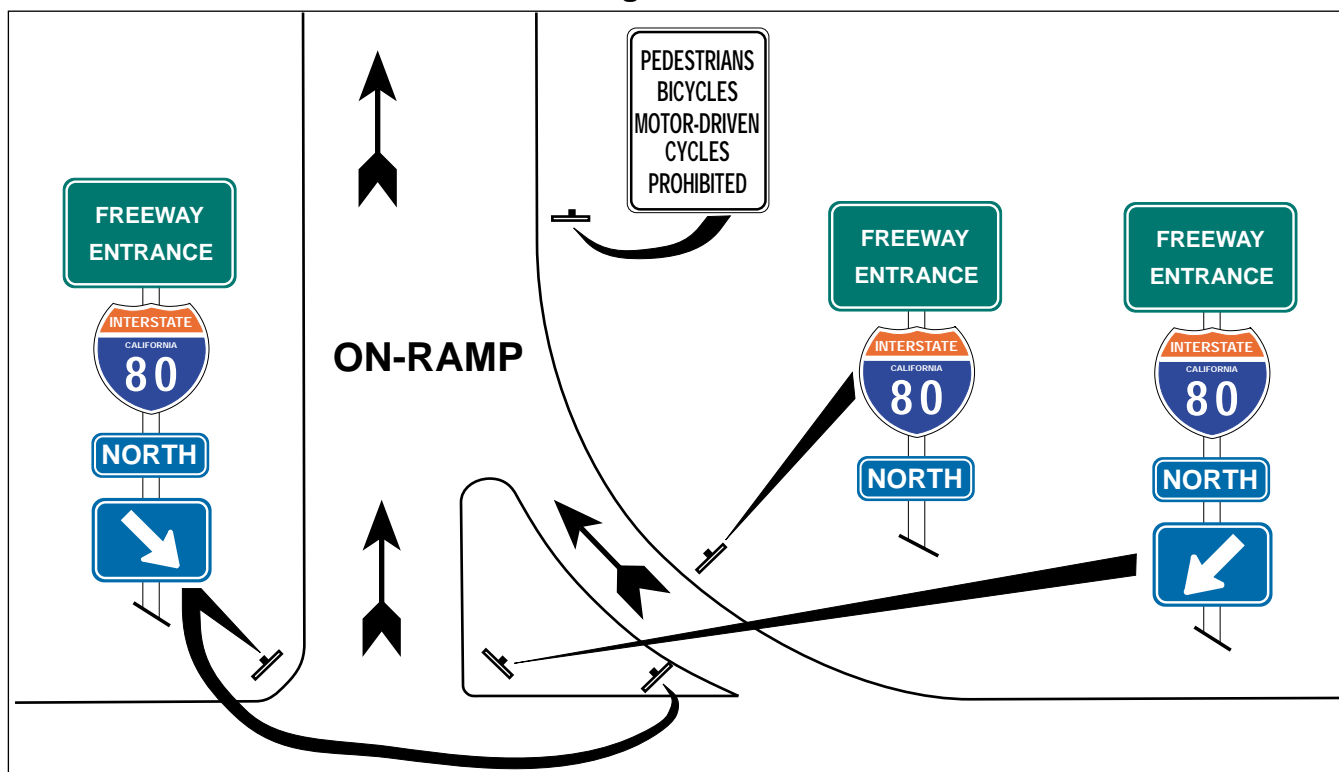


Figure 4-23

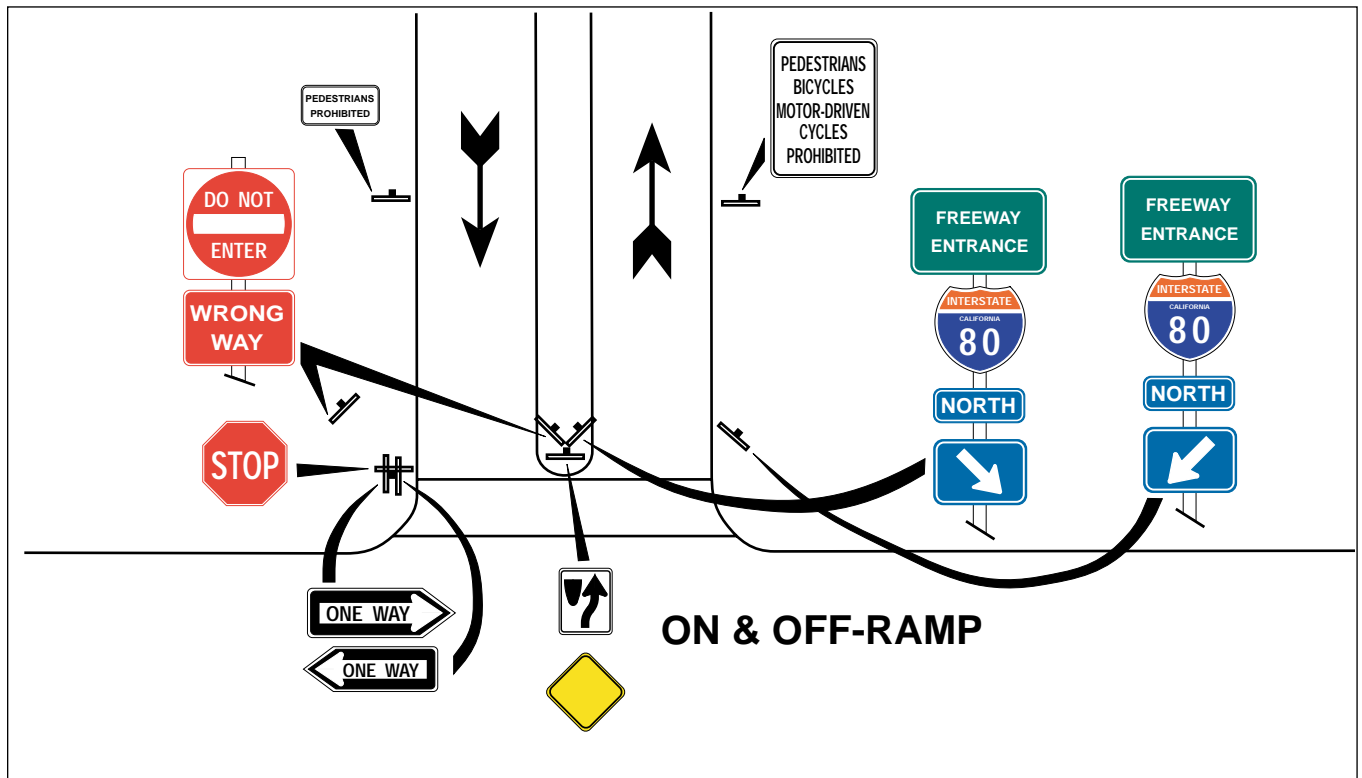


Figure 4-24

